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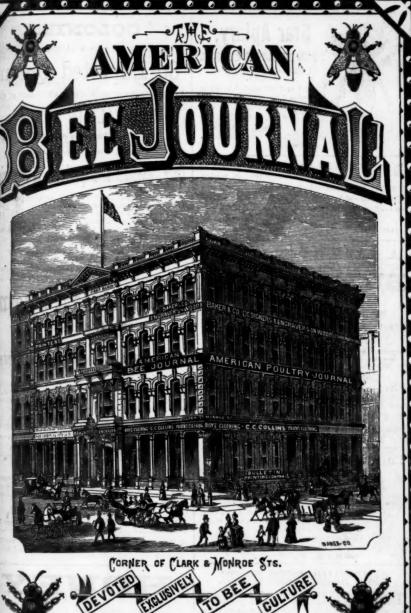
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DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XII.

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No. 6.

#### Captain Hetherington's Address.

In common with the apiarian readers of the A. B. J. generally, we read the above-mentioned address in the April number with much interest. Having had the pleasure of meeting the "gallant Capting" on two occasions at "Bee Conventions," when we talked apiculture until the "wee sma' hours ayont the twal," and enjoyed some good social and public opportunities in the company of our fellow bee-keepers, some curiosity was aroused to see how our genial friend would acquit himself in the Presidential chair. We had high expectations, and they have not been disappointed.

We thank the Captain in the name of the Canadian bee-keeping fraternity, (perhaps it would be presumptuous to speak in the name of the whole Continent of America) for his eloquent tribute to the memory of the late Moses Quinby. He has paid a high and glowing tribute at once to his talents and virtues. It was well deserved. While we need not say in despair, "we ne'er shall look upon his like again," it is no libel on humanity to say that such men are, "like angels' visits, few and far between." We warmly second the suggestion as to the compilation and publication of a memoir and remains. Perhaps the MSS. of "Advanced Bee-Culture" is in such shape that it can be got ready for the press in a style that would do the author no discredit. If so we hope it may see the light.

In view of Mr. Quinby's great, and to a large extent, disinterested labors—and the felt indebtedness of bee-keepers to him—we submit whether it does not behoove us to testify our gratitude and respect in some substantial and enduring form. Would not a monument to his memory, erected by the bee-keepers of America, be a graceful expression? If every bee-

keeper would contribute but a dollar, it would suffice to rear such a monument as would grace the humble cemetery where his remains have found a resting-place, and bear witness to the bereaved family, and public generally, of our high appreciation of his usefulness and worth. We make this as a proposal to our brother and sister apiarists, and hope it may be entertained and carried into effect. If resolved on, we will do our part in seeing that Canada gives its quota toward so deserving an object.

Anything said by Captain Hetherington on practical bee-keeping deserves respectful consideration, but we think with the editor of the A. B. J., that he has wandered a little from the record in his criticisms on the "bee journals." We know that it was our aim while editing the A. B. J., to be impartial and truthful in all our representations of bee-keeping. We own to a feeling of enthusiasm in regard to apiculture, but still think it never tempted us into the use of coleur de rose when speaking of the business. On the one hand, it was necessary in some cases to defend bee-keeping from the uncalledfor and ungenerous flings of journalists who were constantly insinuating that "bee-men were sharpers, and that apiculture was a delusion and a snare." On the other hand, it was needful to tone down the exaggerated anticipations of sanguine beginners. Back numbers and volumes of the A. B. J. furnish proof that both duties were in some degree faithfully

Although the captain frankly owns that he began bee-keeping under a de lusion, we are inclined to think he has done, on the whole, pretty well at it, and we should have been glad if he had given a fuller account of his personal experience. This is necessary, "that the subject be fairly presented." The inference from

what is stated would be that it is a delusion to go into bee-keeping as a remunerative industry, though it is a fine calling for oxygenating the blood, giving a good appetite, and keeping off dyspepsia, with its attendant "blues." If it is all this, and if, besides, it will yield a comfortable subsistence, why, then, it is by no means a bad calling. We don't suppose that the Captain has made a fortune out of it any more than the lamented Quinby; but if he has found a competence in it, as we think he has, why then, it is just as well to say so much in its praise.

Too much stress cannot be laid on the advice not to go into bee-keeping unless you are "adapted to it." A man wants "a call to bee-keeping," if he is to succeed at it; just as truly as a man wants "a call to the ministry," in order to be effective in that vocation.

There is an idea abroad just now, that, whereas at first, bee-men eulogized the business in order to get buyers for patent hives and a legion of useless "fixins"; now there is a fear entertained lest too many should go into it and so the business be "overdone." We don't imagine that Captain Hetherington is influenced by any such motive, because he knows quite well that successful bee-keeping, on a large scale, requires peculiar qualifications such as few persons are likely to develop. For ourselves, we play second fiddle to no one, as an amateur bee-keeper, but we know as well as any one can tell us that we are not "adapted" to beekeeping as a calling. We can do better at preaching and editing, although neither of these can be called a money-making business. For shallow purses, threadbare coats, patched clothing, and "shocking bad hats," commend us to the ministerial and editorial fraternities. But if any one undertakes to run down either of these professions, we are prepared to go for him with a very sharp-pointed pen, dipped in ink with rather more than the usual proportion of gall in it. w. F. C.

On the 16th C. O. Perrine went to the South on a tour of inspection. He intends visiting many of the bee-keepers in Louisiana, Florida, Tennessee, Kentucky and Ohio, before returning.

At a recent meeting of a county bee. keepers' society, the secretary thereof made the charge that he had purchased of a well-known dealer, for pure Italian, a queen which proved to be a very poor hybrid, if not a pure black. This matter occupies a large portion of space in the report of proceedings of the society, pub. lished in the local paper. The accused party asks that we publish the report in full, and sends us a full reply. This would occupy several pages, and as it comes at a late hour, when the pages are mostly made up for this number, we publish neither charge nor reply, not having room therefor.

Even had we the room, we doubt the wisdom of the publication. The readers of the Journal are not interested in the details of a personal quarrel, and if we begin it, the wrangle may run through several numbers. The AMERICAN BEE JOURNAL has always deservedly borne the reputation of being fair and impartial, and the very freedom of its columns has perhaps been, more than anything else the subject of criticism. A highly esteemed correspondent says "I have always liked the Journal, though I think too many unkind flings are admitted. They are mischievous and do not aid our art." We believe this is a fair expression of the opinion of others.

In the present instance, a man with an enviable reputation as an upright dealer is said to have sold to another dealer, as pure, a queen nearly, if not quite, black. We certainly cannot believe he would be so idiotic as to commit so bare-faced a fraud, even if he had no principle whatever, for the loss of reputation thereby would be more than the price of many queens, and a very few such transactions would entirely stop his gains from sales.

We can readily believe that a man may buy a pure queen and afterward suppose himself to be imposed upon. A few years ago we ordered an Italian queen of a man whom we believed to be honest. To make sure of her kindly reception we put her in a small colony that we had purposely kept queenless for a week or more, having cut out all queen cells so we might feel sure, not only that they had no queen, but that they had no means of raising

one. Within three or four weeks we examined the maturing brood and it was black! As we had taken the necessary precautions, were we not justified in asking redress? But on examination we found that the queen had changed to a very dark color and her wings which had been clipped had grown out to full length! Of course this queen was in the hive when the Italian was introduced and had probably been coaxed into the hive by the bees when out on her bridal excursion from a neighboring hive.

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We have just been trying one of Novice's extractors, that is, running it without any thing in it, and it certainly runs very easily. It seems as if it would not be hard to get up speed enough to throw out honey, brood, and perhaps, bee-bread! After being accustomed to one without gearing, we feel quite sure we should, with the Novice machine, throw out some brood before getting the hang of it. The gearing is admirably arranged so that the crank lifts off, being in one solid piece with the larger cog wheel. This makes it very easy to clean or oil the cogs. There is no wood about it, and the whole thing is so light that it can easily be carried with one hand. It appears to us, it would be troublesome to clean, as we see no way of taking the frame work out of the can without taking out four screws and these would soon be getting rusty or loose. Only Novice would have thought of the night-cap arrangement of cotton cloth for covering it.

WE have before us the new work of Prof. A. J. Cook, entitled "Manual of the Apiary," containing 60 pages of useful matter, with 20 illustrations. As to the mechanical execution of the work, it has the appearance of a government pamphlet, being a little more than 6x9 inches, and contains much waste space. A smaller page and thicker book would have been far more convenient. Of course at so low a price it has a paper cover. The type is Many of the cuts are neither beautiful nor true. The beginner, who has not one of the larger works, will obtain in this, at a trifling expense, the pith of what he wants.

#### Artificial Comb-Foundation.

The situation at present with regard to Comb-Foundation is about as follows: "Novice" comes into the field again,

and says in May Gleanings:

"I am now having another machine made, as Mr. Perrine makes no progress as yet towards filling orders, even at his prices; ours will be 75 cents and \$1.00 as before, but I beg no one will send in money until we announce being ready to fill orders. If, after the machine is done, our laws will sustain Mr. Perrine, you and I will have to submit until his patent runs out; we can do it pleasantly if obliged to, can we not?"

Mr. A. J. King announces in the May B. K. Magazine, that he will furnish machines for \$100 each. He says:

"A considerable quantity of cheap materials, perfectly harmless, and acceptable to the bees, is mixed with the wax, and to a person owning a machine the complete foundation combs ought not to cost him above 40 cents per b. The materials added to the bees-wax give it a stiffness and tenacity very desirable in the breeding department of the hive, and this is the only place where artificial combs (except thin strips for guides) should ever be used."

He furthermore offers to give his patent for the benefit of the bee-keeping public, providing Mr. Perrine will do the same.

If anything but pure bees wax is used in the production of foundations, we are strongly of the opinion that the whole thing will fall into deserved disrepute, and damage the sale of comb honey.

Meantime, Mr. Perrine has not receded from his position, that no one else has a right to make the foundations. If this claim is sustained, then the only question will be as to the profit of furnishing the bees with foundations at Mr. Perrine's prices; if the claim does not hold, then the question will be whether to buy a machine at \$100 or the product at 75 cents per 16. If it is true that the comb-foundations (if they are to be much used, we hope a shorter name will be invented) should only be used in the breeding department and they can be made for 40 cents per to; then it follows that only those who want about 300 lbs will find it profitable to pay \$100 for a machine if they can buy the foundations from Novice at 75 cents per lb.

Some English bee-keepers use the sheets of wax without any cell impressions on them and seem to think them about as good. We have used these sheets and any one can make them, as we think there is no patent on them. Take any vessel that is most convenient and melt beeswax in it, putting in first, water enough to make the vessel tolerably full after the beeswax is in. Of course, it would do just as well to have all bees wax and no water, but a very little wax can be used if water is added. Dip into this a piece of common window glass, and after taking it out of the wax, dip it into a vessel of cold water to cool it and you will have a thin sheet of wax on each side of the glass. If wanted thicker, dip again in the wax. We think, however, we should much prefer the pressed sheets.

To fasten in the frame, a little melted wax or rosin may be dropped on as a kind of solder, or a hot iron may be run along the edge of the wax where it touches the frame.

If much is to be fastened into frames, the plan given by Novice is good. Make a board just large enough to fit easily into the frame, and nail stops around it so that the foundations will be just at the right place to be fastened into the frame.

If the foundations cannot be used for surplus honey, then it seems to us, their chief value will be gone.

W. W. Lynch asks, how to preserve combs, not in use from the moth. They may be put in a closet or box which closes so tight that no moth can find an entrance. They may be hung in an attic allowing a space of one or two inches between the combs. We have kept them standing all the year in a hive out doors just as the frames would be hung for the bees to occupy; but this might not be so well in all localities.

A. G. Hill did not say, in his article on Artificial Swarms, whether he used woolen or cotton cloth for curtains. If cotton, would it not be a good plan to make them double with a thickness of newspaper between?

C. T. SMITH.

I use one thickness of woolen or two of cotton cloth. The paper may be an improvement, but I have never tried it.

A. G. HILL.

Mr. F. W. Chapman has sent one of his extractors to this office, and the cut on the advertising pages is a very exact representation, except that the corner posts of the machine are neater in appearance than those in the cut. The wooden frame work about the can adds unnecessarily to the weight, but it has the advantage of being always mounted, ready for work. For every revolution made by the crank the comb makes four revolutions.

Not Hay, but Honey.—The first line on page 187 of May number, R. Miller's article on Melilot Clover, should read: "I got 6,000 pounds of honey," not hay. It will be well to make that correction on your copies, for it is an important change of words.

The first article in this number from the pen of the Rev. W. F. Clarke, was intended for the May number, but was received too late.

Mr. J. S. Coe writes us that he proposes to have the ground about his house apiary, planted with honey-producing plants; and asks that bee-keepers send by mail specimens of the honey-producing plants of their various localities, directed "J. S. Coe, House Apiary, Exhibition Grounds, Philadelphia, Pa."

On page 117 of last issue, D. H. Ogden's address is wrong. It should be "Wooster, Wayne County, Ohio." Those who have written him to Mass., will do well to write to the postmaster and order the letters forwarded to Wooster, Ohio.

WE had a pleasant call last month from the Rev. A. Salisbury, of Camargo, Illa, who is extensively engaged in aparian pursuits.

On April 25th, G. W. Maryatt, of Milton, Wis., lost his residence by fire. In his cellar were 40 swarms of bees, and all were consumed.

MR. C. C. VAUGHAN, of Columbia, Tenn, has been added to the firm of Staples & Andrews, of the Columbia Apiary, in that place. One month ago they had 175 full colonies, and were then having natural swarms.

FRIEND NEWMAN.-Believing that I am as successful as anybody in the introduction and sale of machine-extracted honey, and as the ready sale of the article is just as important as the production of it, allow me to add to the exhibition in your office, two of my cases of honey jars. They are the style in which I have been selling honey to the trade for years, and it is the best merchantable shape in which I have

seen honey put up, so far.

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I object to putting a piece of comb into a jar of "pure machine-extracted honey," because it is, in my estimation, only pleasing to the eye of the ignorant, and because it can only be calculated to convince the purchaser that the article is pure honey. Every honey producer knows that machine-extracted honey is the only pure honey possible, while we have wax and other little impurities with the choicest kind of comb honey. Choice machine-extracted honey will recommend itself; and a piece of comb in a jar is just as insufficient to convince a sensible consummer of the purity as the crumbling of dry comb on top of a jar. after granulation has taken place, a jar of machine-extracted honey, with a piece of comb in it, is unsightly and unsalable.

We should have, as near as possible, a uniform shape in which to offer our honey to the trade. To our neighbors we may sell it in any shape to suit them, of course. But we are in the habit of seeing canned peaches put up in tin cans, and other fruits in some certain pack-Similar it should be with honey. Round jars can be furnished for about \$1.00 less per gross than square jars. But I prefer the latter because everybody uses round jars for almost everything, and because square jars have a neater appearance

and pack better.

Permit me also to place on your table one of my knives. There are no more practical uncapping knives made, and they are cheap. CHAS. F. MUTH.

We have taken pleasure in examining these articles. The one pound honey jars look very much like the ordinary square pickle bottles. On one side is blown in the glass the figure of an oldfashioned straw hive or skep, and the words "1 POUND PURE HONEY." The remaining three sides are plain to admit such labels as the producer may wish to put on them. We do not remember before to have seen a label of directions like the one Mr. Muth puts on the jars of honey he sells. Something of the kind should be on every jar of honey sold. The label reads as follows:

"All pure honey will crystalize, [of course he means granulate—Ed.] especially if exposed to

the cold. Putting the jar in hot water, will bring the candied honey to its fluid state without the least injury to the quality. In order to save the glass the corks should be loosened and the water heated gradually."

In this connection we also give the printed instructions Mr. C. O. Perrine sends out with his goods:

"To restore candied honey to its original liquid

"Nearly all pure honey will form into granules in cold climates in time. Some honey so forms sooner than others, and in some seasons honey will so form much more than in others, owing to atmospheric conditions aside from absence of heat

atmospheric conditions aside from absence of heat.

"When I have any jars of candied honey I take the covers off, to guard against bursting with confined heat, and place them over a steaming kettle of water, setting them on strips of wood and covering them over with a cloth, so as to keep the heat in. If comb honey, care should be taken that they do not heat too quick or get too warm, as a very little excess of heat above that required to melt the honey, will melt the comb (wax) too, as well as the liquid honey about the comb, which, when melted, will float on the honey.

"If the jars be set in an oven the same result will follow, placing strips of wood under them to keep the heat from breaking the glass.

"To those having them to sell, I will say if they will warm them before they are candied through, a very little heat will do."

Mr. Muth's 50-cent uncapping knife is a

Mr. Muth's 50-cent uncapping knife is a rough looking affair, but the blade being of good steel it will doubtless do good work. Some would rather give \$1.00 for a nicely finished knife, while others would rather save 50 cents and have something less tasteful in appearance.

The bee veil of Mr. Muth is made of thin, white material, all but the part before the face which is black and very fine, so as not to impede the vision. It comes down to the waist at front and back, making a very thorough protection; in fact too much of a protection for an old beekeeper, who will want a veil ready to be thrown down quickly over the face as occasion may require. For the timid who want to feel sure that no bee can get near them, this veil is just the thing.

Don't write anything on the face of a postal card but the address. We very often have to pay 5 cents for a postal card sent us because the sender has put the date on the face of it instead of the other side. Let all remember this.

In a private letter, one of our most prominent bee-keepers remarks that our April number was "the best bee-paper" he "ever saw, Wagner's administration not excepted." Our determination is that each future number shall be "like un- .

#### Secure a Choice Queen.

We now renew our offer to send a choice tested Italian queen as a premium, to any one who will send us five subscribers to the AMERICAN BEE JOURNAL with \$10,00. This premium, which gives a \$5.00 queen for five subscribers, will pay any one for taking some trouble to extend the circulation of the AMERICAN BEE JOURNAL. Premium queens will in every case be warranted.

# Barnes' Foot-Power Saws for Hive Making.

A. I. Root, editor of Gleanings in Bee Culture, Medina, Ohio, says, "This machine is one of the brightest illustrations of genuine Yankee ingenuity it has ever been our fortune to meet, and the simplicity and fewness of its parts are really surprising. With the new and novel foot power, the only wheel there is about the machine, except the saw, can be instantly set humming like a top, and one of the prettiest little saws can be attached to it in little less than a second of time, yet the whole is so extremely simple that even a child can do nice true work at once. At our first attempt we sawed one foot of % in. pine in six seconds. The facilities this machine offers for rapid work, and the way in which labor is saved in its construction, are to us simply marvelous. We thought we did a bright thing when we devised our new extractor gearing, but we will yield the palm to the Barnes Saws." See advertisement.

HIVES.—We have made arrangements so that we can supply Hives of any kind, and in any quantity, on the shortest notice—either complete or ready to nail together.

WE will give \$2.00 for the following numbers of The American Bee Journal: No. 1 of Vol. 2; Nos. 7, 8, 9 and 11 of Vol. 3. Any one having them to spare will confer a favor by sending them to this office, at once.

COMB FOUNDATION for sale at this office, as 'well as hives, extractors, and other apiarian supplies, at the regular market prices.

I. N. BLANCHARD has removed from Wisconsin to Ottawa Co., Kansas, and intends to make a specialty of honey producing. F. W. CHAPMAN, of Morrison, Ill., has one of his Extractors in A 27, the northwest corner of the agricultural building of the Centennial Exhibition at Philadelphia.

The Rev. J. E. Rockwood, of Logan, Iowa, writes us that the Washington Press item published in the May number is a canard. He has interviewed the Rev. H. H. Kellogg, and learned that he bought the farm three or four years ago—and that the price was not \$8,000—and that he has had no communication with Mrs. T. this winter.

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OUR ALBUM.—Quite a number have sent on their photographs during the past month, and we have a large Album started with them. Let the others be sent in, that the collection may be large and interesting.

Those having anything of interest to bee-keepers are invited to send a sample for exhibition in our office. Send description and directions for using, and also give us prices.

We have a new lot of fresh melliot clover seed, that we can supply at 25 cents per lb. Postage 16 cents per lb. extra, if sent by mail.

To Poultry Men.—For two subscribers and \$4, in advance, we will send postpaid a copy of A. J. Hill's work on "Chicken Cholera," as a premium. See his advertisement in this number. Those wishing this premium must mention it when sending their subscriptions.

WHEN your time runs out, if you do not wish to have The AMERICAN BEE JOURNAL continue its visits, just drop us a Postal Card, and say so—and we will stop it *instanter*. If you do not do this, you may rest assured that it will be sent on regularly. Let all "take due notice and govern themselves accordingly."

THE Los Angeles (Cal.) HERALD devotes a column to the interests of apiculture, styling it *Bee-Keeper's Column*. It is edited by N. Levering. May it do much good.

### Correspondence.

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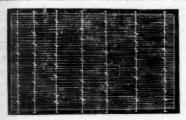
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For the American Bee Journal. My Straw Cover.

Three years ago I succeeded in constructing a fine straw cover for my hives, which answers well for all purposes, and gives better satisfaction than any other I have seen. They are made as follows: Take strips, 1½ inches wide, and make a frame to fit the size of the hive; in the side pieces I make 1/4 inch holes, 3 inches apart commencing 1/2 inch from the ends; from the hole to the inside, I grub out a little, to sink the canes I stretch across this frame. Now, fill up finally with clean straw, and draw the cane over the upper side, which I afterwards bind off with waxed twine. This cover is as smooth and solid as a honey board, and I put it on early enough to allow the bees to fasten it with propolis. The following illustration will show what I mean. This



cover may cost a little more than a mat, but will hold out any wooden honey board, and pays four times its cost every year, for bees breed much faster under it, in spring, and winter better, because they keep dry and warm, without any current of air through the hive. I have over fifty of these covers in use now, and cannot say too much in their praise. W. WOLFF. Jefferson, Wis.

> For the American Bee Journal. Success and Failure.

Having just looked over the April number of the JOURNAL, I see friend Heddon trying to show that there is no profit in bee culture, especially with the extractor; and friend Bingham seems to be close upon his track. Burch agrees with him so far as comb-honey in glass boxes are con-cerned. I differ with them both, so far as the comb foundations are concerned, and agree with Bingham that the bees should build their own foundations if to be eaten. I do not want the comb foundations on my stomach, nor on that of my customers. My experience, generally, accords with that of friend Dadant, page 107. The above four men, all my friends, are

all honest, and it is not my purpose to dispute what they say, but merely to give my own experience.

I have never had anything for sale but as advertised, "Pure Italian queens and full colonies," nor have I been a pur-chaser of hives and fixtures, bee-feeders, etc. Here I would state that I forgot to say at the start, I consider myself successful, and it is my aim to show how I succeeded, even in a poor location as this is.

I commenced with the Langstroth hive, trading bees for hives, thus making it a rule to go slow and make my bees pay their own way as they went,—thus, "Pay as you go." I also improved my bees until I had, or thought I had, the best in the U. S., but never have depended upon bees a single season for a living. I carry on the saddle and harness business, and my apiary is right back of my shop, so I can just step out of the back door and walk in the apiary any time. It was bad health and want of out-door exercise that caused me to start an apiary. I will here say I started it with two gums, before I had ever heard of a book being written on bees. started in 1857. I well knew, when I started it, if the bee business was a sure business, it could not be so in such a locality as this, where we only have about one good season in every five. My rule has been never to keep over 80 stands, and to reduce them by sale every spring to about 36 or 40, my wintering being a success every winter. No disease ever known in my apiary.

I have generally sold comb-honey at 30 and 35 cents, until I, like Dadant, created a demand for the extracted. I can now sell three pounds of extracted to one of comb, even at the same price, 20 or 25 cents, never less than 20 yet. My market is at home. Before the Extractor, I had to beg a market in the cities. I sent C. O. Perrine two crates of comb-honey, in caps, some years ago, and will here

state, to his credit, he dealt fairly with me .
If novices with the Extractor would wait until the combs are fully sealed over, they would get an article of thick, rich honey, cheap at 25 cents any where. This is the article I give my customers, and it has at last made the sale of my cap honey

On account of the sale of bees I have had every spring, I have never had an opportunity to give my bees a fair run for honey gathering, as yet. They being re-duced to about 40 every spring, had to be increased to 80, and raise about 200, or more, queens besides, and to do this in this locality, I have never got over about (2,000) two thousand pounds besides.

The great damage to the bee business is so many novices pitching in with a patent hive, fixtures, farm-rights, etc., expecting to make money on a pack of tools who will buy their chattels. The best way to deal with such agents is to show them the gate out of the yard, and that quickly, too. The best hive that ever was made, or can be made, is the plainest frame hive a man can make at a low cost. I prefer the Langstroth, as it is the plainest and easiest to use I know of.

It would take up too much space to go into detail of my management of bees: but I will say, anyone, managing skilfully and economically, as I have done, can make bees pay. Pitching in at the start, with capital, buying farm-rights, and every useless appendage for bee culture, is a sure failure. Also following such leaders as N. C. Mitchell is a flat failure.

R. M. Argo.

Lowell, Ky., April 8, 1876.

P. S. Will friend Bingham say that the business of selling queens and full colonies is not honest if the dealer is honest and deals honestly with all his customers? I know all are not so.

For the American Bee Journal.

# Introduction or Early History of Bees and Honey.

The Natural History of the honey-bee has been the marvel of all ages from the time of Adam the greatest naturalist the world ever produced, who well knew her history when he named the bee "Deborah," in the Hebrew, which means "she that speaks," and the bees speech is both as sweet and as wise as that of her namesake Deborah, whose wondrous song of victory is written in the Book of Judges. Adam knew that the bee was able to speak and teach proud man, with all his boasted intellect, many a wise saying if he was only willing to learn at her school, and so he gave her that name. This was 4004, B. C.

The history of bees is found written in hieroglyphics in the Pyramids of Egypt, and on ancient tombs, long before writing was discovered, and this proves that the natural history and management of bees occupied the attention of man at the earliest period of which we have any record. Surrounded by a boundless variety of living creatures, he would naturally be led to notice their habits and economy; and no part of the world of insects, would be more likely to engage his consideration than the honey-bee. Honey would in all probability, constitute one of his earliest luxuries; and, as he advanced in civilization, he would, as a matter of course, avail himself of the industry of its collectors, by bringing them as much as possible within his reach; and by this means he would take an important step towards an acquaintance with entomology. But the progress made by our earliest progenitors, in this or any other science, is involved in the obscurity and uncertainty

appertaining to the infancy of society and the difficulty of writing its history in hieroglyphics.

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The first indication of attention to the bee's natural history is contained in the Old Testament, where it is mentioned in connection with honey and wax in no less than twenty of the books. In Genesis 43; 11, the patriarch Jacob, in giving directions to his Sons on going down into Egypt a second time, tells them to "take of the best fruits of the land," with them
—literally that which was praised the
most or "the song of the land" and among others, he names "a little honey."
The things enumerated, as we are informed, grew well during a drought; and as a famine now prevailed, would be more highly appreciated in Egypt. Besides we are led to the belief that honey was an article of commerce previous to this time-Genesis 37; 25, and inferences drawn from Homer and Herodotus at a later date. The whole of the twenty Books conclusively prove, the care that was taken of the bees and how highly their produce was appre ciated; and 'in Solomon's Song 4; 11, Christ's love for the Church is beautifully expressed; "Thy lips O my spouse, drop as the honeycomb; honey and milk an under thy tongue; and the smell of thy garments is like the smell of Lebanon."

The records of its first progression are however entirely lost, and no regular his tory of this science exists prior to the days of Aristotle, 330 years before Christ; who under the auspices and through the munificence of his pupil Alexander the Great, was called to prosecute with the greatest advantage, for the time in which he lived, his experiments and inquiries into every department of natural history. Alexander felt so strong a desire to promote this object, that he placed at the disposal of Aristotle a very large sum of money, and in his Asiatic expedition employed above a thousand persons in collecting and transmitting to him specimens from every part of the animal kingdom. Aristotle is therefore to be regarded as having laid the first foundation of our knowledge of that kingdom. He must likewise have derived great advantages from the discoveries and observations of preceding writers, to whose works he would probably have easy access. No individual naturalist easy access. No individual naturalist could without such assistance, have produced so valuable and extensive a work on natural science as that which Aristotle has bequeathed to posterity. And though the opinions of himself and his contemporaries have been transmitted to us in an imperfect manner, and abound in errors, still he and his illustrous pupil Theophrastus, who succeeded him in the Lyce um, may be regarded as the only philo-sophical naturalists of antiquity, whose labors and discoveries present us with any portion of satisfactory knowledge.

Prior to their time we read of Aristomachus of Soli in Cilicia, who spent fifty eight years in the contemplation of bees; and of Philiscus the Thasian who spent so great portion of his time in the woods, in pursuit of the same object, as to have acquired the name of Agrius. Both of these great bee-masters left behind them in writing, the results of their experiments and observations; but the original works have been long buried in oblivion. However small the contribution of knowledge which we have derived from these ancient worthies, they must have greatly aided the progress of their favorite science, and are at all events evidences of the zeal with which the study of bees was prosecuted in their day.

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About three hundred years after the time at which Aristotle wrote, his observations on the honey-bee were "embellished, and invested with a species of divinity, by the matchless pen of Virgil," in his fourth Georgic, 35 B. C; and it excites feelings of regret, that poetry, which for its beauty and elegance is so universally admired, should be the vehicle of opin-

ions that are founded in error.

WM. CARR.

Newton Heath Apiary, near Manchester, England.

For the American Bee Journal.

#### Disease of the Bee.

I am very much interested in the AMERICAN BEE JOURNAL, and, in fact, anything pertaining to the bee. I wish to state my experience and my belief as to what causes the bee disease. I think that cold is the cause. I have not seen anything of it this winter, because it has been generally warm. But years before, I have noticed that those in coldest parts of my cellar, where the thermometer would mark 28° or 30°, would be sure to have the disease; while those sitting in the center, and directly under my kitchen, would be dry and entirely free from it. I would advise all to throw away straw mats, bed quilts, comforters, and everything of that sort, for I have tried them, and find an inch board better than all. Just loosen the board from the frames when you set the bees in the cellar, and that is ventilation enough, if your cellar is at the right temperature, from 44° or 54°.

I think bee-keepers go too much on foolish patents. Such things all cost money, besides being in the way a good part of the time. I use an oyster can, opened on the side, and find it just as good as any patent feeder I ever used. I put pine splints in for floats to keep the bees out of the honey or syrup, and they will take out every particle of it.

One of my neighbors was troubled with

bee disease, but it was as cold as 30° in his cellar. Cold causes the disease. He bought his bees of me, and they were in as good condition as my own when he put them in his cellar. I set my bees all out by the 10th of March, and they had a good fly; they are in splendid condition; they cover from six to twelve frames.

From 100 swarms put in the cellar last fall, I found four good swarms queenless, (they were very late queens, and had only just commenced laying when I put them in) and one nucleus, smothered through my

own carelessness.

My bees are all in the cellar at the present time of writing, and the weather bids fair for them to remain there two or three weeks yet.

Mrs. D. M. Hall.

Rock Co., Wis., April 2d, 1876.

For the American Bee Journal,

#### Salicylic Acid for the Cure of Foul Brood.

Since the publication of my note on Salicylic acid, as a cure for foul brood, in the January number of the Journal, I have received a report of the meeting of the National Bee-keepers' Society of Germany, held at Strasburg, which contains a very long report of Mr. Hilbert on the above subject. Mr. H. stands high in the estimation of German apiarists, and as his report gives a better and fuller account of the manner of using the acid, I have condensed his report, and give the same for the benefit of those that wish to try the remedy. Mr. H. has cured twenty-five stands by this method, and his patron, the Count Kolourat, known through his importation and trial of Cyprian and Egyptian bees, has in like manner cured sixty-five stands. The directions of Mr. H. are as follows:

Dissolve the crystalized acid in eight times its weight of alcohol. Four times the amount would do to dissolve the acid, but then it would flake when mixed with water. More than eight times as much alcohol would be injurious to the unsealed brood. This solution is called

the alcoholic solution.

For the disinfection of combs, frames, and hives, use but thirty-two drops of the alcoholic solution for one ounce of water; mix well by shaking. This water should not be too warm, nor less than 60 degrees Fahrenheit, else the solution will flake.

For the disinfection of hives and comb, use an atomizer. Keep the brood warm; disinfect the hive first, and hang in the brood as soon as disinfected. Reduce the hive to the smallest limits; remove surplus honey after disinfecting it with the atomizer. Before doing this, however, all sealed foul broody cells must first be treated with a mixture of equal parts of the alcoholic solution and warm water.

For this, use a piece of wood of the shape and size of a match. Dip this in the lastmentioned solution, and pierce the foul broody cell to its bottom, immersing the piece of wood anew for each cell. For the unsealed brood, sprinkling with the atomizer and the weaker solution is sufficient. Every other evening feed about one-third pint of honey, to which are added from 30 to 50 drops of the alcoholic solution, according to size of hive.

The sprinkling should take place once a week, if not oftener. Mr. H.'s hives re-quired from six to eight applications before he considered them cured. It is bad policy to take away the queen or to cage her, as it would weaken the swarm too much. In subsequent examinations one will find dead larvæ, though they may not exhibit the signs of foul brood. They are evidences of insufficient or faulty feeding and nursing. Mr. H. thinks that the constant exposure to the foul vapors of the hive proves deleterious to the queen and the bees generally. The young bees especially that act as nurses and at the same time remove the decaying matter, communicate the poison to the brood they feed. And as the foul brood fungus may perhaps generate and increase within the body of the living bee, as the trichina does in man, it is well to regenerate the brood by the addition of young bees from healthy hives. When all the above measures have been conscientiously applied, it nevertheless happens that foul brood will continue to appear. In such cases it may safely be presumed that the ovaries of the queen have become infected. In twenty-five hives treated by Mr. Hilbert, he found three such queens. Instead, therefore, of destroying all queens, it might be well to try them in nuclei hives with clean combs and healthy bees. Mr. H. sum-marizes the matter in the following words: "The absolute cure of foul brood may be effected by a proper application of salicylic acid, by the addition of healthy nurse bees, and by a change of queens, if necessary."

Mr. H. estimates one ounce of the acid sufficient to cure from five to seven stands. Care must be taken to sprinkle all parts.

Respectfully, John P. Bru Los Angeles, Cal., April 7th, 1876. JOHN P. BRUCK.

For the American Bee Journal.

#### Extracted Honey.

In reference to extracted honey and the discussion thereon, I wish to bring for-ward a little of Mr. Heddon's past experience, in proof of my arguments.

The reader will remember that we hold that extracted honey does sell and does pay, and that bee-culture also pays, while Mr. Heddon denies all this.

Since Mr. H. seems to doubt our own

statements in proof of this, we will give

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him some of his own statements.
We have gathered Mr. H.'s past with ings, and find that his honey crops were as follows:

Y	ear.	Stocks in Spring.	lba. Honey.	Stocks in Fail		
(1)	1870	6 1	523	22		
(2)	1872	14	3000	not said		
(3)	1873	16	4200	35		
(4)	1874	48	8500	55		

Until 1874, from his own reports, (5) Mr. H. had never sold his honey less than 28 to 30 cts. In Gleanings, Sept., 1874, (6) he said: "As our honey sells at good prices, we have decided to feed sugar syrup this fall for wintering."

November, 1874, (4) he said: "Started a honey house and met with such good success that we shall handle 20,000 lbs. he fore next season. Bought the crop of

several bee-keepers," etc., etc.
In August, 1874, (7) his opinion was
that he could expect yet 2,000 lbs. of extracted honey, or else 150 lbs. comb, meaning that he could just as easily get 2,000 lbs. extracted, as 150 lbs. comb honey. This is entirely in contradiction with his opinion on the matter in A. B. J. for March, 1876, where he says, in substance: "Persons who think that extracted honey at 10 cents, could be produced as profitably as comb honey at 25 cents, are ignorant of the manipulation of small boxes." From his own words, as above, he could produce over thirteen times as much extracted honey as comb honey, that is, if he sold extracted honey at 10 cents, he should sell comb honey at \$1.30.

All at once, however, Mr. H. found that honey was a drug on the market, and in September, 1875, (8) he advertised three barrels of extracted honey for sale. Now,

Mr. H., one question.

If in 1874 you could sell 20,000 lbs of honey, how is it that in 1875 you could not get rid of just three barrels? Have your customers left you? Or have honey dealers sold adulterated honey to your dealers and beat you out? If that is the case, why not sell your honey cheaper than they can afford to sell theirs, since you say, A. B. J., 1876, p. 30, that beekeepers can raise the pure article cheaper than they can manufacture it.

My friend, D. D. Palmer, of Eliza, Ill, said in December No. of Gleanings, and in answer to H.'s complaint, that he Palmer, had made \$535.00 out of fifty-five colonies in one season, and thus tried to prove to Mr. H. that bee-culture does pay-

<sup>(1)</sup> A. B. J., Vol. VI., p. 118. (2) " " Vol. VIII., p. 251. (3) " Vol. X., p. 154. (4) Gleanings, Vol. II., p. 143. (5) " Vol. II., p. 19. (6) " Vol. II., p. 109. (7) " Vol. II., p. 101. (8) " Vol. III., p. 128.

Friend Palmer, you can't prove anything! Mr. H. has made (9) in one season (1873) \$800.00 from 16 colonies of bees, or \$50.00 per colony, by his own report, and still complains that bee culture will not pay.

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One more word. Mr. H. says that extracted honey is inferior to cane syrup. We don't know how his honey is, but we emphatically affirm that we have never seen pure extracted honey that we did not prefer to any syrup, and we know that 19-100 of our readers will agree with us in this. We say that granulated honey is the only extracted honey which is merchantable wherever buyers are acquainted with honey.

We say that honey does not need to be all capped over to be extracted. We usually take it when about one-half capped over and we never had honey to turn sour, although we have now on hand about fifty lbs. from 1873, which we kept for an experiment, and that honey is as good as erer. Of course it is granulated.

Mr. Heddon has answered our arguments on the usefulness of the extractor, and on the saving for the bees whenever it is used, only by telling us that he did not say that thin watery stores were the cause of the mortality of bees in 1869. True, he only said that he could see no other cause but that. In this he is somewhat of our opinion. That may not have been the only cause, but it was one of the main causes.

Be it understood that we entertain no hard feeling against Mr. H., but that we only wish to prove that extracted honey pays, and sells when pure and granulated, and that bee-culture does pay, while Mr. H. tries to prove the negative on these questions.

C. P. DADANT.

#### For the American Bee Journal. Wintering and Springing.

Those of us who winter our bees on their summer stands, find the chief difficulty with which we have to contend is to winter over a sufficient number of bees in each stock, so that they may be strong enough to successfully contend with our damp spring.

The main point, we conceive, is not whether we can save each colony, so that we are not reduced in the number of stocks we had in the previous season, but that each individual stand shall be healthy and populous that it may be able early to take advantage of pasturage fitted for their use; who that has had any experience in the matter, does not know the vexation and labor connected with bringing up a weak colony in the spring or summer, to a proper condition to carry it through the following winter?

Now that we have succeeded for many

winters past to our full satisfaction in wintering our bees, it may be proper here to give a brief description of the plan adopted. For some ten years we have practiced upon the principle of upward ventilation, (in every instance we have failed where we discarded this principle); our chief object has been after the removal of the honey boards (we use the Langstroth hive) to ascertain what was the proper material to place over top of the frames; after testing various substances, such as leaves, bran, corn cobs, cut straw, etc., (we never tried straw mats) we have finally adopted the following system: We first remove two combs from each hive; we then cut winter passages in every comb which is not already cut, then take a woolen quilt, blanket, or similar covering. and place over top and down the sides of the combs; on top of this we place a frame four inches deep, upon which is tacked a woolen cloth, making a chaff-box which we fill with wheat chaff, and place this box directly on top of the quilt, then pack sides (of double hives) and cap with wheat chaff, and the hive is ready for the winter. I forgot to state that I open and close the entrance blocks as the weather may change from cold to warm and vice versa. I prefer wheat chaff to anything I have ever used unless it may be a number of plies of coarse paper; the wheat chaff is also better than oats or other chaffs which lie too close and retain too much moisture, which should pass off, and therefore keep the bees both warm and dry.

The more serious matter of springing, remains yet to be looked after (and in our location, 42°, is after all the great obstacle to successful bee-keeping.) Last fall was no exception to many previous ones, in the fact that we had several stocks which proved obstinate and refused to breed late in the season; it made no difference how lavishly we fed them, either on honey, sugar syrup, or candy, we could not induce breeding, a result which we labored industriously to promote, as we are of those who believe that in order to successful out-door wintering, we must have young bees. And then again, we committed the too common error among apiarists, that in order to keep our full complement of stocks through the winter, we kept some that were too scarce of bees to keep a proper degree of warmth in the hive; and another error, we were very anxious to save two valuable queens, which we saw no other way of doing. We think the lesson served us dearly for we lost both. As is always the case, we can now see the remedy after it is too late to meet it. Where there are a number of stocks in the apiary we will always find some that have more brood and bees than we care to put up in a single stock for the winter. Now, how easy it would have been to have exchanged combs of brood with our stocks which refused our well meant endeavors to induce them to breed; by this course we could have accomplished the very result we so much desired; and yet, another and perhaps a better alternative presents itself, we mean the old and reliable, and I may add, the always safe remedy of doubling up, or uniting stocks; when the choice was whether we should lose two choice queens or preserve one of them, one would think it would have been quickly taken, but we have no doubt there are very many like us, who have found the most reliable axiom in bee-keeping is the hardest to learn, or at least to practice upon, we mean that which teaches to "keep nothing but strong stocks." It has been written, and re-written over and over again, but although we are willing to acknowledge its force and truthfulness, we are loth put it into practice. Let us now resolve again, that we will do so even should we double-up all the stocks in our apiary, and then we feel confident that we shall have as little fear of successfully springing our bees, as we now do of taking them safely through the winter.

WM. S. BARCLAY. Beaver, Pa., April 4th, 1876.

For the American Bee Journal.
King Birds Once More.

As the time is fast coming when the king birds will make their appearance, I thought I would say a few words of their real character. It is the worst enemy the bee has (the mice excepted only). Mr. bee has (the mice excepted only). Mr. Quinby says, on p. 229, that it is guilty of only taking drones. This is a mistake. I have shot them, and on examining their crops, I have found bee stings. Drones have no stings. If bee men will take pains to inform themselves, they will find this assertion true. Mr. Q. further says: "You will see it only in the afternoon of a clear day." I have shot three king birds on one morning last August before six o'clock. If any one will watch, they will see them come, as soon as the bees begin to fly, and keep busy at their depredations through the day. It is the real bee enemy. Last spring I bought of the Rev. A. Salisbury seven tested Italian queens. They were pronounced by all who saw them to be beautiful. They are my pets, and I intend to protect them, if I can, against all enemies. They made large increase last summer; they now have from 30 to 40 lbs of honey, and are strong with young bees. I would not like to be called an enemy of the birds. I love them. The king birds are the only ones I would have destroyed. I always contend that birds are of great value, and their beautiful notes are charming at any time, but king birds I condemn.

Peoria Co., Ill. JAMES JAGGARD.

For the American Bee Journal Bee Culture in Texas. sp th bl in

I have at last found time to write a article in regard to my discoveries about bee culture in Texas. In the northern portion of the state, there is a section of the country along Red river, that is known as the rafts, where the bees do very well There are a great many wild bees there. The "rafts" are heavily wooded with cypress trees, and a variety of undergrowth, which is green all winter. I think bees will do as well there, as any where in the United States, California not excepted. There was no day, that was clear, while I was there (in December,) but what the bees were out. I could not get an accurate account in regard to increase, or surplus amount of honey, obtained yearly, as there is no one keeping bees on the improved plan in this part of the state, but everyone says, that keeps bees, that they make "lots" of honey. One man, that has been living there for twenty years, says he often gets forty gallons of honey from one tree. He has fifty stands of bees, mostly in round gums, three or four feet high, and a large around as a barrel. He says he had had six or eight swarms from one in a season. I called to see another "bee" man but he was not at home. I asked his wife how much honey they got to the hive; she said she did not know—as they never weighed or measured anythingsaid they had thirty hives of bees, and when they took the honey they "robbed some, killed some of the heaviest, and saved some of the lightest over;" said they "let the neighbors have a good deal -sent a right smart chance to town, and had a good many buckets and tubs full left." That is the nearest I could come to the average of each hive. If anyone desires to make bee culture his chief business, the "Red river country" is the place.

The low-lands are rich and fertile, but not so healthy, while the up-lands are heavily timbered with pine, but the soil is cardy not very productive.

sandy and not very productive.

In the north central part of the state, near Dallas and Collin counties, it is a rich farming country. My principal stopping place was near Dallas—Dallas city is situated on Trinity river. The bees were in good condition there in January, but hardly anyone using patent hives. This part of the country possesses all the honey producing trees and flowers, that we have in Iowa, with the exception of the linden. They do not cultivate any thing for bee pasture, as there is an abundance of wild flowers—on which the bees work—from six to eight months in the year Also, have very heavy honey dews at times which, of course, the bees turn to good

account. There is a weed grows here spontaneously all over the prairies, which the bees gather from; it commences blooming in August, and continues blooming till late in the fall; it looks very much like flax. The inhabitants call it broomlike flax. I called on a gentleman at McKinney, in Collin county, who has a small apiary. His wife invited me out to look at the bees. I opened several hives and found them in good condition and making merry music over the flowers in door-yard. Almond trees in full bloom 20th of This gentleman uses the Ameri-January. This gentleman uses the American hive. Bees mostly Italians; said that he commenced in spring of '75 with sixty-five stands, and before the year closed, he had doubled his stock, besides taking 5000 bs. of box-honey, and 1000 fbs. of extracted honey.

The honey here is equal in quality to any I have ever seen, and the flavor is unusually good; the extracted is quite thick, some of it candied. Have a market for all they can sell right at home; 25c. for box-honey per B., and 15c. for extracted per B.; \$1.00 per gallon for squeezed or

strained honey.

In regard to country, I say it is very rich—can raise almost anything that will grow anywhere in the United States. Health good, and society will compare favorably with any new country. Land cheap. Any one that likes a warm climate could certainly suit himself in Texas.

H. G. HENDRIX.

Des Moines, Ia, April 6th, 1876.

For the American Ree Journal

For the American Bee Journal. Those 'Bugs'.

It is with pleasure we observe the 'brotherhood' (who live by picking 'bugs') peck (dutch word for sting) each other, while their own 'bugs' are laid

away for future use.

away for future use.

Bro. Jim 'pecks' some 'greeny' and Bro. C. P., 'pecks' Bro. Jim because he can't find the same 'greeny' to 'peck'. Bro. T. F., 'pecks' Bro. P., and others, while Bro. N., tries to lug off Bro. J. S.'s bug shanty in spite of his cackling. And another Bro. (D.) endeavors to Staple a Pike (D. A.) to keep his bug' from humming too loud for his own bug to be heard. (Can't you let her hum, Bro. D.?) Surely she is a curiosity if she can produce all sorts of eggs and 'things,' and furthermore, fur brings a good price now. (AMERICAN BEE JOURNAL, page 109.) At any rate, if no one else wishes to invest it will pay Novice to do so, that he may have the pleasure of informing his readers what a nice 'bug' he has pinned. Are the white 'bugs' better than the yellow ones, and the yellow ones so much better than the black that we used to be so well satisfied with? Surely, the Grim-m

one ought to know "having wintered 1400," and why does he advertise "hybrids 50 cents less (only)? And who would not rather have pure blacks than hybrids, by 50 cents? We have tried hybrids little ends, and found them as hard and pointed as any, and much more often ready to 'peck' by 50 cent's worth.

Is every new theory so much better than the old ones, that the owner thereof should 'peck' every other but his own, instead of giving facts and figures to demonstrate the case. Do not the 'old heads' (who are so patriotic and disinterested) take more pains to write something 'taking' than to 'eliminate' the very information (which they are full of) that the beginners and others are looking and longing for?

J. O. S.

[We think most of our readers will be better suited if the stings are all picked out of articles sent in, but we were not a little amused to find that in this very article, J. O. S., had left in a little sting. We picked it out.—ED.]

For the American Bee Journal.

#### Moth Trap.

I have nineteen swarms of Italians, all in good order. I have been troubled with the moth miller, some. In 1873, I found, while sitting near the window and reading by lamplight, that the glass would be literally covered with millers, gnats, mosquitoes, etc. I took a lighted wide-awake lamp, and placed it out doors, near the house, on the ground, near several pans of sour milk and dish water, and I soon had a lot of millers, and other insects.

In a few evenings not a miller was to be found about the apiary. My hives are not ever 100 feet from the house. That lamp was the best moth trap I ever saw,

lamp was the best moth trap I ever saw.
On September 7th, 1875, I suffered a shock of paralysis, disabling me. I can neither stand nor walk, having no use of my legs. I often look out of the window and wish I could be out among my bees once more.

I got thirty-three swarms from six, and 200 lbs of box honey, in the summer of 1875.

MARTIN M. MALLERY.

Hillsdale, Mich.

[Those who have Italians, pay very little attention to the bee moth. Years ago we considered it quite important during the fore part of summer to examine the hives every morning; but with strong Italian stocks, we do not find it worth while to pay any attention whatever to moths or worms.—ED.]

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For the American Bee Journal.

The Bee Moth.

Prof. C. E. Bessey, in the *Progressive Farmer*, gives the following history and description of this insect. The illustrations are from Prof. Riley of Missouri.

#### ITS HISTORY.

The bee moth, or " moth miller," ( Galleria cereana), is a native of the eastern continent, having found its way to this country probably with the earliest swarms of bees which were brought from Europe. It is mentioned by the ancients as one of the pests of the apiary, and no doubt it has existed as long as has the bee itself. It is found, however, in greater abundance in certain places than in others. Neighbour, in "The Apiary," says that "it is not so troublesome in England as it is in America and some parts of Germany." Huber, in his work on Bees, does not mention the Moth, so it is fair to presume that at that time it did not exist in that portion of the continent, i. e. in Switzerland. All 'American writers mention it, as well they may, for scarcely in any portion of the country are bees exempt from its ravages. The venerable Quinby wrote in 1865, in his "Bee-Keeping," as follows: "If we combine into one phalanx all the depredators yet named, and compare their ability for mischief, with that of the wax moth, we shall find their powers of destruction but feeble in comparison." Harris, in his well-known treatise, calls it a pernicious insect, and Langstroth notices it at length in "The Honey Bee."

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These they attempt to lay in the hive but if prevented from doing this, they deposit them as near the opening as possible, so that the worms which hatch from them may find but little difficulty a effecting an entrance. Dr. Donhoff says, "The eggs of the bee moth are entirely round, and very small, being only about the eighth of a line, (i. e. one ninety-sight of an inch) in diameter."\* In a short time the eggs hatch into

#### THE WORMS.

These at first are minute, but as they begin eating wax immediately, they soon grow larger, and in about three weeks, according to Harris, they attain their full size (a in the figure). They are provided with a silk gland, from which they spin the material of their galleries, and at they gnaw their way through the combs in various directions, they always build up their silken defenses. When of full size they seek some sheltered place is the hive, and spin their

#### COCOONS.

In this state they remain for two weeks, and then change to the perfect or winged form.

It will thus be seen that more than one brood may appear during the season, and in fact it is generally spoken of as double brooded, the first brood appearing in May and the second in August, but as moths are to be found at any time between these two dates, it is more than likely that three generations are frequently produced.



a, the full-grown worm; b, the cocoon; c, the pupa, or chrysalis; d, the female moth, with wings expanded; e, side view of the male moth, with wings at rest.

#### THE MOTH OR WINGED INSECT.

The insect which lays the eggs, is a moth, or miller, of the family Pyralida, i. e. the snout moths. The female, (d in the figure,) is of a grayish color, and with a spread of wing of a little more than one inch. The male (e) resembles his mate, but is somewhat smaller. When at rest, the wings are folded over the back, like the sides of a house roof.

The moths appear from early spring to some time after mid-summer, and during this time the females are engaged in laying their

#### DEMPTITE

The best protection a colony can have is strength. Strong colonies that cover all their comb, are the best protection. Those that are weak must be looked after, and the comb examined. A queenless colony, if allowed to remain so, becomes an easy prey to the worms. Quinby says: "whenever our stocks have become reduced, from over-swarming, or other causes, the

<sup>\*</sup>A personal examination of the eggs, made with the microscope, shows them to be oval, with measurments 1-48 inch long, 1-58 inch wide; color white; surface minutely reticulated.

ravages of worms are to be expected."

If, however, the worms have gained a foot hold in the hive, or if from weakness, there is danger of such being the case, then the old and reliable remedy of hand-picking must be resorted to. All the authorities unite in recommending frequent examinations of the combs, and some suggest the use of a thin stick, pointed with iron, for killing the worms or moths which may be found between the combs, or in other places difficult of access. Such examinations should be made frequently throughout the season, and especially in the latter part of summer, and in the fall months, when the worms of the last brood are spinning themselves up.

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All authorities unite in saying that no contrivances intended to make the hives moth-proof are of any avail whatever. It is impossible to arrange the openings to the hive so as to certainly keep out the moths, although of course a small opening is better than a large one, because in the former case the bees can guard it more thoroughly. Hives made so as to close automatically at night-fall, and those which are closed by the weight of fowls on their roosts may as well be discarded at once, and the bee-keeper who invests his money in one is simply throwing it sway.

### For the American Bee Journal. Extracted Honey. (SUGAR SYRUP.)

I cannot refrain from replyiny to one or two articles which have lately appeared in The Journal.

B. Y. T., of Henry County, Ind., says: "I see \* \* \* there was a poor honey harvest in nearly all parts of the country. Still the markets are better supplied with extracted honey (sugar syrup) than in any previous year, etc., etc." Now, that his assertion is incorrect, I will show in three ways. Now, mark you carefully, he says extracted (sugar syrup). Bee-keepers do not extract sugar syrup. They need not feed it to the bees to extract it. Again, mere white sugar syrup is too costly, (brown cannot be used). Is he so ignorant that he does not know that glucose is the article used to adulterate with? Can he point to any bee-keeper who adulterates his own raising of honey before it goes to market? There are some five or six honey dealers who adulterate with glucose; then, that is not "sugar syrup," nor half so good. His whole charge is directed against bee-keepers, and honey dealers are not on the list, only those who extract are subjects for Orange Judd & Co. Worse still, no honest man will use an extractor at all.

Secondly. Did B. Y. T. stop to enquire how much old honey there was on the market? How much poplar, fruit-bloom,

buckwheat, that is too dark for sale in jars, or almost any way, only in combs (it sells in the comb). Yes, and when it is in the comb, it is "pure honey," but extracted, it is sugar syrup. Calling all extracted honey, sugar syrup, and all who extract, humbugs, is an insult to beekeepers that no honest man will give, who is fully posted in the matter.

is fully posted in the matter. We would infer that extracted honey is the only adulterated honey. I heard from two good men, that a man not a hundred wo good men, that a man hot a numer miles from Lawrenceburg, Indiana, sold, during fall and winter of 1874, at retail, at 18 cents per 18., 1,800 fts. of sugar syrup "IN THE COMB." He offered it to a honey dealer, but was informed of its quality. What will B. Y. T. say to this? I shipped 10 barrels of "extracted," and there we not an ounce of "extracted," and there was not an ounce of "sugar syrup" or glucose either, in it. Mr. Charles F. Muth can speak of its quality. Extracted honey is the best for the consumer; he can see and taste for himself, and not buy comb-honey, like a "pig in a poke." Wax is indigestible and injurious, and should not be eaten. As to preaching against extractors, it will be about as ineffectual as turning a river back through its beaten channel; if not allowed any other use, we will keep them to make room for the queen, and feed our humbug honey to the negroes, who would smack their lips at "sugar syrup." Let bee keepers sell direct to consumers, and there will not be any more fault found with extracted honey. have a way of extracting honey, and have the dark and light kept separate; return the dark to the bees for winter, and sell

the fine.

B. Y. T. wants the columns taken up with directions for making box-honey. Perhaps the Indiana man (who sold the 1,800 ths. of "sugar syrup" in the comb.) would, for a paltry sum, give Mr. B. Y. T. a recipe for it.

Mr. James Heddon seems to have created a stir among the hives. He asks why "C. O. Perrine replies that he does not want to buy honey at any price." Well, glucose is plenty and cheap. There is no use of selling to such men, as there are a plenty of others to buy. There is no room to complain when we can get from 10 to 12½ cents for good extracted honey, that is equal to from 21 to 25 for box, and far less expense, danger, too, and expense of shipping. I have tried both, box and extracted. When you can give them small pieces of comb to induce them to build, it requires 1 h of box to equal 3½ of extracted; without any comb, 1 of box to 3 of extracted; if you take out frames and insert boxes in their stead, 1 pound of box to 2 of extracted. When close to market, boxes may do; but when a distance to ship and honey is fair, then extracted.

Mr. Heddon says, when apiarists learn

to get as much comb-honey as extracted, there will be but little extracted honey taken. I say so, too; but, then, no man of intelligence can expect any such a result. I will not call Mr. H. what The Bee World did, but it would require a wonderful manipulation and double amount of comb, and men to manage, so as to dispense with the extractor. To say that extracted will not sell to experienced purchasers, will not bear proof. I agree most heartily that honey should be well "ripened" before it is extracted; and just here is where honey gets its damage, and it has greatly impaired the extracted honey trade. Some men have lauded bee-keeping to the skies; but it is no use now running to extremes the other way. have gone to such an extreme in making money out of bees, that men of ordinary talent lost sight of you; and now, please, don't come back to your honest starting point and disgrace your beginning. Ah! friends, you have done too much to induce men to bee-keeping, but now you find you have said too much, as a class, to sell your wares, and now your customers are in your footsteps, and like yourselves, looking for the golden prize (a fortune), but now you turn and view. "Oh! there's too many coming now, and see the multitudes about to start." Oh! listen to the wail of your leaders of "patent hives, honey extractors, comb guides, boundless depths of honey, money in the apiary, big lots of honey for sale," etc., etc. Another tune is now played to the words of "Old Hundred." Away with the extractor, it Hundred." Away with the extractor, it is not needed; our bees, after being wintered, and even up to June, after long feeding, nine-tenths have died, we can't sell a small lot of box-honey, and, oh! not a drop of extracted wanted at 9 cents, and I get only 200 lbs. of it per hive. Oh! stop in time. A German-sized farm (four acres) rather than 100 hives of bees. B-u-t w-e w-i-l-l meet next May, and see what effect the winter will have. Now, such is a fect the winter will have. Now, such is a true and condensed view of the proceedings in Ohio and Michigan for five years. There is a man in this State who had his bees manipulated for him just before, and in the beginning of the honey harvest, he extracted an unusually large quantity, but the honey was quite green and should have been one-fourth less. The amount was 48 barrels. But when I saw the account last, in the Rural New Yorker, it had raised to 149 barrels, and 20 barrels on the way to France; but none of it passed New York, or brought over \$1.11 per gallon there. He had 149 colonies in July, 119 in November, and less than a hundred now, yet he informs us that they are doing finely, and that he has not lost any. He does all he can to keep men from entering the business, and endeavors to drive away what are there, and by means not according to apostolic mode, or

the golden rule. The truth is, there are no fortunes made, and I am sure, none lost. The income on the investment is a fair one indeed, but it will not do for the inexperienced to depend on it, for they have seven chances to fail to one to succeed.

I am anxious for the day to come when honey will be put on an equality with other sweets, sugar and syrups, that adulterations will cease. Put extracted 8 to 10 cents, comb 14 to 18 cents, then honey will be consumed instead of sugar in many preparations, and then there will not be any more danger of over-stocking the market with honey than sugar. This will be a good profit for bee-keepers and always a ready sale. Give me a guarantee of 8 cents per 15. for well ripened, fully fair, extracted, for three years to come, and they can have, (Heddon) can have the balance. I dare any one to give bond in the sum of \$10,000.00 for fulfillment of the contract. I will wager 10 barrels of honey that I can sell 150 barrels per annum of extracted honey and net 14 3-5 cents per 15. Will you take me on either? Point Coupee, La.

#### Depression in Apiculture.

The following paper on this subject was read before the N. E. Bee-keepers' Society, at their late meeting at Utica:

When Mr. Langstroth wrote his "Hive and Honey Bee," more than twenty years ago, the first sentence stated that "Practical bee-keeping in this country is in a very depressed condition." If the above quotation was applicable to the condition of American bee-culture twenty years ago, when bees wintered without loss, when the forests were dripping with nectar and large yields of honey were the rule, and when the labor of the apiarist was amply remunerated by the ready sale at a good price of all the honey he could produce, it is doubly so now when the "bee disease" depopulates our hives in winter, when the denudation of our timber lands has so modified our climate as to render the secretion of nectar uncertain, and the low price and dull sale of what honey is obtained diminishes the profits of the apiary. Without entering into the details of the cause of the present depressed condition of bee-culture in our country, it may not be altogether unprofitable to consider the problem of how we may secure our surplus honey in order to realize the most money therefor. We all remember the excitement created in America by the introduction and use of the honey extractor, and the oft repeated assertion that this machine was the long sought desideratum that would render bee-culture an occupation a result safest we we diction ing I tive t with

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tion at once pleasant and profitable. The results accruing to any method are the safest and surest test of its utility; and we would ask, have they verified the prediction referred to above? Is not bee-keeping more hazardous and less remunerative to-day as a pursuit than at any time within the last twenty-five years?

It is not necessary to enumerate the evil consequences which have attended the use of the honey extractor on an ex-tensive scale in the production of surplus honey, as they must be patent to all. The vast amounts of raw, unripened extracted honey, together with the sugar and glucose that is sold for honey, having nearly ruined the sale of the liquid article and lessened the price of all honey, there re-mains but one alternative that will give us any permanent relief; viz., to secure our surplus in the comb in such a manner that it will command a ready sale at a fair price. To secure this end it must be stored in neat and attractive packages, holding from two and one-half to four pounds, gross weight. The glass box, weighing two and a half pounds, we have found to be much the most profitable, since we have been able to secure just as many pounds of honey, as by raising the larger sized packages. When it shall become generally known that just as many pounds of comb honey can be obtained in any season, in small glass boxes, as can be secured in liquid form with an extractor, it seems to us that our honey extractors will go out of general use. We are often asked this question: "Is not an extractor a necessary adjunct in an apiary, when run to box honey?" We can conceive of no possible use for it, except to empty combs from hives in which the bees have died in winter. One hundred swarms that are run to extracted honey, will keep an aptarist busy for four months of the year to produce the honey, and six more to sell it; while three times that number can be run to the little boxes with less labor in the production, and not more than one-sixth the labor is re-quired for marketing it. Such at least is our own experience, and we have tested both systems pretty thoroughly. To insure this most desirable result, the shallow frame of not more than eight and one-half inches in depth, the small hive 1500 (or less) cubic inches capacity, and prolific Italian queens, are indispensable requisites.

The depression certainly has induced us to study and investigate its causes and cure, to scan more closely the basis of our past efforts and the fundamental principles of our present system. And more than all, it has enabled us to comprehend one simple fact hitherto entirely overlooked, that honey production is the foundation and ultimate end of all beekeeping. Realizing the importance of

this fact to some extent, the Michigan Bee-keepers' Association devoted a portion of their recent annual session at Kalamazoo, to the consideration of this subject. The great cry has been, "every body should keep bees because there is a mine of wealth in it, and little capital and less labor is required to obtain it than in any other pursuit." True, most of these statements are made by parties who are interested in swelling the ranks of agriculturists, hoping they would become patrons of their wares—"apiarian sup-plies." The result is that hundreds and thousands of pounds of honey is begging for a purchaser to-day, at a price below the cost of producing it. Now the position we take in this matter of roping new recruits into the business is simply this: give a fair and candid statement in regard to our present circumstances and future prospects; tell the world that our bees die in winter; that we secure a limited supply of surplus honey quite as of-ten as we do a bountiful yield; that honey is fast getting to be an unsalable article; that it requires pluck, perseverence, great energy and skill, and no small amount of capital to make bee-keeping even a moderate success, and having told the plain truth leave every person to choose for himself. Herbert A. Burch.

# For the American Bee Journal. Distance of Combs from Centre to Centre.

As there seem to be various opinions on this subject, I will give the result of my experience and observations. I once saw the question asked in the Bee Keeper's Magazine, "What is the exact distance required from centre to centre of combs?"
The answer was 1 7-16 in. I then supposed that there must be a uniform distance that bees would build their combs in a box, hive or tree, or any other place where they were allowed to superintend their own business, and that any deviation from that rule would intefere with their prosperity; and yet I wondered how a bee keeper could be so exact as to adjust the combs to the exact 1-16 of an inch every time they were taken out and replaced, or put into another hive, without using a rule to measure them every time. I knew this was not done, and yet I knew there were many successful apiarists. Some writers still advocate the same distance of 1 7-16 in. A. Benedict wrote an article in the AMERICAN BEE JOURNAL for November 1875, in which he stated: "In building combs bees make them a certain distance apart and they should be kept frame to frame just as the bees construct them." Now if this gentleman has guide bars in his frames, and will put a set of frames into a hive at various distances apart, not going

to extremes, and set the hive level and put a swarm of bees into it, he will find they will not build their combs a certain distance apart, but will build them just where

the frames are placed.

When I first noticed the theory of a uniform and exact distance, it was a matter of much interest to me to know whether it was absolutely essential or not; and to satisfy myself I improved the first opportunity I had, to measure the combs in a box-hive, and found to my gratification there was a variation of at least one half inch; and since that I have measured a number of box-hives and find a variation of from 1¼ to 2 inches or more, measur-ing from base to base of combs. This explodes the theory with me of a uniform distance from centre to centre of combs; or a uniform thickness of store combs. As there is a uniform space between store combs, the variation must be in the thickness of them; and as the lower part of the same combs are used for breeding and brood combs are of a uniform thickness, the variation must of course be in the space between the combs. I use twelve combs in an 18 inch hive and do not pretend to adjust them to the exact 1-16 of an inch every time I replace them, and find no trouble in keeping strong stocks and getting a large increase of stocks and a large yield of surplus honey. Where is the key to the uniform distance from centre to centre of combs, since bee instinct fails to explain it? Palo, Mich. S. K. MARSH.

#### AN ADDRESS

READ BEFORE THE SECOND SEMI-ANNUAL SESSION OF THE MICH. BEE-KEEPERS' ASSOCIATION, AT KALAMAZOO, MAY 6th, BY T. F. BINGHAM.

In introducing my subject, reference should be had to the great and growing interest felt in bee-culture. It is met with on all sides-from the honest farmer of sixty years, whose stolid, even life, opens only to the rich perfume of his well tilled fields, or the poetic disquisitions and syren tongue of that noble middle man, who in recounting the joys and glowing accomplishments of the honest farmer around whom honor, independence and rural greatness stand like cherubim quietly introduces the horse pitch fork and the various bee journals and the patent bee books — on whose glowing pages in letters of fire stand these immortal words: "Entered according to act of Congress in the southern district of the state of New York, in the year of our Lord, 1874." I should not be pardoned if in this recital of Patent things, around which fame and fortune cluster like moths around a beehive-if I didn't mention that MUCHLY abused necessity-that"patent bee hive." Neither does the interest stop here! That compactly built and most ancient bee keeper, and dealer in Italian queen and bee keepers' supplies—(enclose stamp for circular). Ex-president of the Northeastern Bee Keepers' Association Mr. M. Quinby, stated before that honored body that bee culture should be taught in the Agricultural Colleges; and further to the glory of our state and institutions he said Michigan would be central and well adapted to such training as this sweet scented industry doth most require. We owe this distinguished compliment, I presume, to the able paper from Prof. Cook read at said convention. We won't find fault with anyone; but we might be pardoned for asking why this body of whom Prof. Cook is a part, could not have had so great and valuable a paper-which allow me to say-(Prof. Cook is not here I believe) is the most valuable contribution made to bee-culture for many years, and our convention should have had the honor of it!

Now gentleman-I guess there are no ladies here—after this elaborate introduction, who among you could fail to anticipate my subject? And echo answers—anticipated!

However far-sighted you may all be-and bee keepers have always been like spiritual mediums, chock-full of visions-I will give my subject a name:

THE REQUISITES OF A SUCCESSFUL BEE KEEPER.

I have interrogated the historic bee-keeper. The man whose cheeks have glowed and rounded, whose frame has filled out with the perfumed sweetness of forty summers. Yea, and I have interrogated him-

What a halo of glory! He stands on time as on a pedestal. He moves in the traditions of his fathers. Bee-keeping rests upon him like a mantle. It has come down to him in true apostolic succession. We look up—he is there, on either hand and he is before us! We extend our vision backward across the boundary of experimental bee-keeping-and behold he is there! A strange mystery encompasses him. His snowy head, his look of wisdom; we look, we venerate him! Like other bee-keepers, however, he talks freely, recounts bee-hunting exploits, and lives over again his ancient pleasures.

He follows down the innovations and encroachments of the patent bee books and the patent bee hives, with their net-work of slats and painted hulls, on which, as if to cheat oblivion of its certain prey, stands the name of the man who, year after year, and month after month, watched by night and by day the robber and the moth, and the devastations of winter, and all the calamaties of bee-life, and now, by copyright or patent, can tell how

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to double the profits of the apiary, etc.; or furnish bee-keepers' supplies—" Please send stamp for circular."

Of books he has no need; his bees are

rich in stores and limitless in numbers. He surveys them like a monarch, and feels that they adore him.

He hears their pleasant note, and breathes the incense of a hundred blooming fields. His heart is full of gratitude and his head chock-full of pride.

Pride—yes, pride! He is proud and great—his subjects are legion—he rules as if by Divine right.

Who shall question his authority? Whence came the subtle art?

He alone can tell:

His grandfather had that rare gift, the divination of water and the precious metals. His father that more than art, the gift of second sight! While he, majestic in his pride, rejoices that he is the seventh son. Then what must one be and what must one really know to keep bees? It takes a peculiar kind of sense, or extra sense-or something which common people don't possess.

Bee craft belongs with second-sight and water divinations, and the seventh son. It is a kind of knowledge that cannot be acquired. It transcends logic. It is independent of education. It is a gift. A

man must be born to it.

For the American Bee Journal.

#### Who is to Blame?

Not many miles from this place a very pious old gentleman is selling patent right territory in a certain bee hive which is a side, end, and top opener, with various nails and wires to hold the frame in certain supposed desired positions. As near as I can learn, the pious old gent has sold nearly \$4,000 worth of territory to different persons, besides very many of these every-side opening hives. Probably there never was such a favorable time as just now to sell any kind of an apiarian humbug. Why is this so? Because too many of us have put only the bright side of the question out, and more than all, because only till recently in this country has apiculture been adopted as a speci-ALTY, and many farmers and bee-owners generally, are disposed to think that they are as capable of producing large yields of honey as the specialist, and when they are reassured that they may, "by just purchasing one of these quincuplexal bee palaces" of course they "draw their weasel skins" and "shell out," thereby expecting to make money out of bees, like their neighbor, Mr. A., (who does nothing, and thinks of nothing else,) besides reaping the same profit from their vegetables, grain, fruit, stock, etc., as before. While these parties are meeting

with this disappointment and loss, they are at the same time dragging down those who are struggling to "get on" in the

business.

In May, B. K. Magazine, a writer cites us to the time when honey sold for 12½ cents per gallon, while brown sugar sold at 25 cents per fb. This proves what I have many times said in convention, that we must look the matter square in the face and recognize the fact, that cane sugar is in every way vastly superior to honey, except for sauce. Not a great deal of honey will be required to overstock the market for the last named purpose. Our only hope is that some plague will annually decimate the numbers of colonies of bees as fast as they increase in sum-mer. If all bees would winter well, as many desire, in the near future every rod square in America would contain a colony of bees, and then couldn't we sell "Peter Funk," hives, "yaller" queens and "sich" though? I do not object to the making and vending of all kinds of needful apiarian supplies, but let those do it who are not only situated where they can offer goods cheapest, but who have proven by their success as honey pro-ducers, that they know what is needful and what is not. After all, perhaps no one is more to blame for the fictitious condition of apicultural affairs than ourselves.

What reader of this article does not know that every man who has helped pile up this \$4,000 above referred to, has just thrown away his money? Yea, even worse, his time and attention, while the fever is having its run. Jas. H. Dowagiac, Mich., May 9, 1876. JAS. HEDDON.

For the American Bee Journal.

#### Buzz-Saws.

I have had enough experience with buzz-saws to know what we want. I will give my experience, feeling confident it will be the means of saving much useless expense. I had been using a one-horse power and found it was too unsteady; the motion would run down, so I would have

to quit sawing for a few seconds.

Last fall, I concluded to try the "V.
M." gearing, made by the Combined
Power Co., New York. They claimed it had leverage, run very easy, etc., but I soon found it was a humbug. The fact is, leverage cannot be obtained on a vertical cog wheel, or any other. A man cannot cog wheel, or any other. A man cannot stand it to run their machine an hour without sawing. To do good work, I had to hitch two horses to the power. I bought the No. 2 "V. M." gear, price \$75.00; forty turns of crank gave my saw 3,000 revolutions. Finding this too fast, even for a horse, I took off three-fourths the gearing, so I could run the saw from 700 to 1,000 revolutions per minute; then I found I could run a great deal easier. Next, I put a 27 lb. balance on the saw-shaft. This made it much better still, and right here I will say, that no one should undertake to make hives without using two balance-wheels; the one on the saw shaft should be 20 to 24 inches in diameter, and weigh 25 to 40 lbs., the other about 100 lbs., and three feet in diameter. It may be used for the pulley. A small pully can be put on the same shaft, so we can use another belt and horse-power when we have much sawing to do. The saw can be run 1,500 to 2,000 revolutions with one horse. I hope some honest man will make saws as they should be, at a reasonable price. They can be made for \$40.00 or \$50.00.

I would like to hear from others. It is certainly your duty to speak on this subject. R. S. BECKTELL.

New Buffalo, Mich.

For the American Bee Journal.

#### Bee Notes from Morrison.

And surely they can not be very warm ones, for here it is, April 18th, and hardly warm weather enough for bees to fly, wind in the cold north and cloudy over head! The earth saturated with ice water and every thing blue with cold, does not give bee-men a cheerful outlook for profits from the apiary; still we can hope for the warm sun to heat up mother earth by and We thought last spring that we were having the worst spell of weather, but I hardly think it would compare with this; thus far we have had no such warm days as last year, vegetation is not so far advanced—although the past winter has been more mild-yet, I opine that we will have more trouble to successfully spring our bees than we did last year—if we have had so mild a winter-and speaking of "springing" our bees, reminds me of the location of some of the apiaries in the country. Did it ever occur to some of our bee-keepers that there is a draught or current of air out of doors? Just as dangerous to a stock of bees as to the owner, is a slight, steady cold draught of air, such as one will experience in some places almost all the time, be it never so still and warm; and as man is subject to disease in such places, so will a stock of bees feel the effect of such localities which will be manifest in the depopulating by degrees, of the stocks, without being able to discover the reason why; this cool air is very pleasant for man for awhile in a hot day, but it will tell on the constitution in time, if one is compelled to live

I would much prefer my bee yard where the heat of the summer's sun can have full play with no cooling draught, than to have the same located in the refreshing breeze; at all times bees like comforts as well as man, and they know best how to appreciate good locations, and the man that has his stocks stand in such an unhealthy place must have himself only to blame, if in the counting of his profit, he mourns over the loss, instead of congratulating, with the success of his pets.

Bee-culture has become too much of a science, to discard, even the minutiæ of its surroundings, and since we have got by the "taking up" process for our profits, and come to consider apiculture as one of the sciences, it is necessary that the first principles should be well estab lished, ere we can look for the dollars and cents in the results. Theory as well as practice admit that, in order to obtain good results it is absolutely necessary to have our stocks strong and healthy, and if our apiary is located in an unhealthy locality, how can we expect other than unsatisfactory results; and as health is wealth with man, so is a healthy wind sheltered spot, one of the main points of success in the management of bees: and another point that I think of much importance in springing bees, second only to location, is the feeding of them a little, and that regularly, and often. Even if they have a plenty, or a super-abundance, we all know that a queen will lay more eggs when food is plenty and coming in, than when it is otherwise—and right now is when the extractor is of as much value as at any time during the year, by taking away the surplus honey that may remain in the hives, and judiciously feeding it back to the stocks; in no way can stocks be built up so rapidly and be ready to gather the honey from the fruit flowers that will soon come. Don't wait for the bees to have to find it on the trees; put some food where they can have access to it and not have to go miles to hunt in the cold winds and come back benumbed with cold, obliged to linger outside because the chilly wind drives them in their fatigued condition out of their line of flight; they are blown down and get stiffened upon the cold ground, and consequently, can not rise again, and are lost: every bee lost during this month, is worth five in July, and if we can keep them busy at home, we will have fewer losses in springing, and stronger stocks to gather the honey by and by, for the honey will be in the flowers, it has every year so far, and '76 will not be an exception in that respect! Sometime before next winter we will have a honey harvest, if we only have the gatherers; and speaking of honey extractors, how many apiaries that contemplate or intend getting an extractor this season, will wait until they want to use it, then make up their mind, and order one and the next day, go to the express office and see if it has come, and after the second day or visit, write the manufacturor a scathing

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letter, because their extractor has not come, and they need it so bad. Now I know some, a good many, will do it and then blame the maker because he is so slow. A little secret I'd like to tell: and that is, that every manufacturor of extractors prefers from choice, to make his machines to fit the frames intended to be used, if possible; they give better satisfaction to the operator, and it is more pleasant to all parties to have things fit, consequently, they prefer to fill the orders as they come, and don't keep the extractors in stock completely finished; so sometimes, it takes a little time to fill the order. So please don't wait until you need it, but order one before the time of need, and keep cool with the season; you must not hurry, or get excited among bees, or about them— but have your plans, as well as hives, matured. Before swarming time, bees do nothing invariably, so get ready before hand for what is to come, and may we all be happy and successful with our pets this centennial year!

FRANK W. CHAPMAN.

For the American Bee Journal.

#### My Report for Two Years.

Now that the season has fairly opened and my bees are safely through the winter, and bid fair to pass safely through the the spring (especially as I am feeding them about 5 lbs. of honey per day with a view of making them strong for the first flow of honey) I feel at liberty to make

known what progress I have made.

About the 1st of June, 1874, I began with two swarms of Italian bees at a cost of \$43. At the close of the season they had increased to seven swarms, all of which safely wintered in the cellar. passed them through the spring of 1875 without feeding which might have been done this spring. I estimate the yield of surplus honey from the seven stands for the year 1874 at 175 lbs., so a statement for that year would be about as follows:

To 2 swarms Italian bees	43.00
" 1 honey extractor	12.00
" 1 smoker	1.50
" 1 veil	.75
" 1 honey knife	.50
" 7 boxes or hives	10.00
Total	
	Cr.
By 175 lbs. honey @ 25c per tb\$	43.75
" 7 swarms @ \$15 per hive	105.00

Subtracting the outlay from the income shows a balance of \$81 in favor of the apiary for 1874.

Total.....\$148.75

During the year 1875 the number of swarms increased to 22 and the yield of

honey was 550 lbs., while the only expense was 30 dollars for new hives. It will thus be seen that I received \$137.50 worth of honey and found a capital on hand in the way of bees and implements of the cash value of \$344.75. It is due the business to say that I had to neglect it almost entirely from the first of August during the balance of the season, owing to my hired help leaving me with all the farm work to attend to. In consequence of this neglect, four swarms became queenless and died in the winter, a result I could have prevented by giving them a queen in season. When I discovered it, it was too late as a worker bee had already begun laying eggs; after which the bees own the fertile worker as their queen, (whose eggs will only hatch drones) and will not accept a pure queen, nor raise one from larvæ given them, which they would have done had they been in possession of it when the queen was lost.

W. W. MOORE. Clay Co., Iowa.

For the American Bee Journal.

#### My Bees.

The summer of 1875 was an unusual one, in northern Illinois, at least, cold and backward during the early part, so that, up to July 10, the bees had gathered only enough honey for their own needs; then a yield of honey that just set them crazy with the swarming fever. From July 10 to August 10, I was kept in the city, and had confidently counted on the bees being satisfied not to swarm during that time.

Although I had left them weak, they must have built up with great rapidity for letters kept coming telling me that the bees had swarmed, and Mrs. L. was kept quite busy superintending the hiving, Jeff doing the work. Unfortunately, Mrs. L. is one of that class who are badly poisoned by a bee-sting; so she dare not handle bees. I regret this exceedingly, as I should very much like to have my wife practically interested in everything that pertains to bee-culture.

Heretofore I had always done all the work with the bees myself but had to give it up now, for here was a full month of work, requiring constant watching; many swarms coming out several times and going back, because the queen's wings were clipped.

On my visit Aug. 10, I looked over the bees, giving frames of brood to the weak

swarms and uniting a few, extracting about 150 pounds of honey.

Sept. 2, I went out again and found that the bees had been making good use of the time, some of the hives being so full of honey, that the queen had room to lay eggs only in the lower edges of the combs. I overhauled 25 hives, extracting what honey I thought they could spare and still leave them plenty, and would have done the same thing with the remaining 15, but they began to do some robbing, and I thought best to stop operations.

November 25, I went out again, but my wife had got the start of me, and had all the bees in the cellar except two swarms which were so strong and cross that they were left. These two, I helped Mr. P. put in the cellar; and, after loosening up one corner of each quilt, they

were left for their winter nap.

Dec. 6, My wife gave them an airing by opening the inside cellar door and building good fires in the kitchen and in one room over the cellar. A chimney running from the ground up through the house has a stove-pipe hole opening into the cellar, and in this hole is put a stove-pipe opening on the cellar bottom. This is left open through the entire winter.

The winter being so very mild, I felt quite uneasy for fear the bees would be too warm, and I should find a good share of them dead, on the cellar bottom.

February 12, my wife went out and gave them an airing and reported them

quiet.

April 10, she took up her summer quarters on the farm (if 25 acres can be called a farm) and reported the bees somewhat uneasy, and the cellar and house damp. The weather being too cool to set out the bees she set to work drying out the house, and airing the cellar; and they quieted down.

April 17, I went out on the evening train fervently wishing it might be a good day for bees to fly on the morrow. My wish was gratified, and in the forenoon the bees were carried out by Mr. P. and D., the latter being Mrs. L.'s assistant farmer for the present summer. Five of them were dead. One of these had been allowed to fall, on being taken in the cellar, and all the combs were broken down. Not a drop of honey was left. There must have been plenty of honey in the combs when taken in the cellar, or they would not all have broken out of the frames. Did their being down on the bottom of the hive make them eat so much more honey? One other seemed to be out of honey, and I am sorry to say one of them had been given scarcely any ventilation and was quite wet and mouldy. A sixth was queenless with a mere handful of bees, and these I gave to another hive.

This left me with 34 hives wintered, and with the exception of two, they appeared to be in pretty fair condition, there being bees in four or five of the spaces between the combs, and in some of them as many as six spaces had bees in. This seemed to be doing pretty well considering that they had been imprisoned from November 24th to April 18th, nearly five months. The

two weak ones were very weak, but if I could be there to nurse them, I think they could be made to pull through the spring. As it is, the matter is somewhat problematical. To help them, I put in a division board and covered them up a warm as I could.

B. Lunderer.

#### For the American Bee Journal Bees Working in Rye Meal.

As the season is near at hand for feed, ing bees rye meal as a substitute for pollen. it may be of interest to know how they manage to make the fine, dry particles adhere, so as to remain in their bread baskets, being on the wing most of the time while working upon it. Pollen is obtained from the flowers to the best at vantage while the atmosphere is moist so the bee imitates nature by supplying the required moisture so as to make the fine. dusty particles adhere to each other so they can handle it. By observing been while at work on rye flour, the process they resort to is readily seen; they will be continually running out their tongues and wiping down upon it with their fere feet, and keep up a sort of chafing motion with all of their legs. By tasting of it after they have worked it, it has a sweet ish taste. The probability is, they use honey to a certain extent to dampen or moisten themselves for the purpose above stated. This may seem like a small matter to some, but all such matters are felt in the aggregate, and it goes to show that the honey-bee is not ashamed to spit on his hands and take hold of hard work.

Ono, Wis.

M. S. Snow.

#### Bee-Keeper's Association.

The Henry County, Ohio, Bee-Keeper's Association met at Napoleon, Ohio, April

22, 1876.

The object of the meeting being stated by D. Kepler, Capt. W. F. Williams was appointed President, pro tem., and S. L. Curtis, Secretary, pro tem.

Curtis, Secretary, pro tem.
On motion the following Constitution was read, adopted by sections, and then adopted as a whole:

#### CONSTITUTION.

ARTICLE 1. This Association shall be known as the Henry County Bee-Keepers' Society.

ART. 2. Its object shall be the promotion and encouragement of bee-culture in

Northwestern Ohio.

ART. 3. Any Bee-Keeper in Northwestern Ohio may become a member by a vote of two-thirds of the members present, and paying a fee of fifty cents and signing the Constitution.

ART. 4. The officers shall consist of a

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by suc the Ass President, Vice President, Secretary, Corresponding Secretary, Treasurer and an executive committee of three, who shall be elected annually and hold their offices until their successors shall be

ART. 5. All committees except the executive, shall be appointed by the Pres-

ident, except by special resolution.

ART. 6. The stated meetings of society shall be had on the 1st Saturdays in January, April, July, and October, at such time and place as a majority of the members present at any stated meeting may determine.

ART. 7. A special meeting may be called at any time by the executive committee.

ART. 8. This Constitution may be amended at any regular stated meeting by the concurrence of two-thirds of those present, provided notice of such amendments have

been given at a previous meeting.

The opportunity now being given, the following parties signed the Constitution

and paid their admittance fee.

and paid their admittance fee.

B. Bowlsby, J. Huddle, Daniel Kepler,
W.F. Williams, Geo. W. Buchanon, Geo.
Reinbolt, S. L. Curtis, David Bartgis, E. L.
Mann, J. P. Watson, John Wright, David
Clifton, Wm. A. Dunham, John Yaney,
J. H. Bartgis, H. Leaders, J. M. Shoemaker, L. W. Stavens, T. B. Harre K. maker, J. W. Stevens, T. B. Hayes, K. Rakestraw.

On motion of W. F. Williams the meeting then adjourned until 11/2 o'clock in

the afternoon.

The afternoon session met at the appointed time. The minutes of the forenoon session were then read and adopted. On motion of E. L. Mann, the meeting then proceeded to the election of officers. The names of W. F. Williams and E. L. Mann being announced as candidates for President, a ballot was had which resulted in the election of Col. E. L. Mann. Capt. W.F. Williams was elected Vice President by acclamation. The following officers were also elected by acclamation:

8. L. Curtis, Recording Secretary; Daniel Kepler, Corresponding Secretary; Thos. B. Hayes, Treasurer. Several names were announced as candidates for executive committee, but all other names being withdrawn, Dr. J. M. Shoemaker, David Clipton and J. P. Watson were elected by

acclamation.

Remarks were then made by D. Kepler, 6. W. Buchanan, Dunham, Shoemaker, Yaney, Bowlsby, Bartgis and others; and an hour was occupied in an interchange of views, and the questions freely asked and answered, manifested a lively interest in bee-culture. On motion of W. F. Williams, the Corresponding Secretary, to be assisted by the President, was instructed to take such steps as are necessary to bring about the organizaton of a State Bee-Keeper Association, in the State.

S. L. CURTIS, Sec.

#### Michigan Bee-Keepers' Association.

The third semi-annual session of the Michigan Bee-Keepers' Association was held in Kalamazoo, on May 3d, 1876. The attendance was larger than at any previous semi-annual meeting. The discussions were animated and interesting, eliciting much valuable information. They embraced many topics of vital interest to American apiculturists, and fully sustained the national reputation of this Association. Those engrossing topics, winter bee-keeping, honey markets, and best method of securing surplus honey, were ably and thoroughly canvassed. The extractor found many warm advocates, who still insist that its extensive use is essential to success. From the statistics collected, it appeared that the losses in wintering had been exite general through wintering had been quite general throughout the State. Much the best success has attended out-door wintering.

Under existing circumstances, it has been deemed advisable to omit the dis-cussion of the several topics. The next annual session will convene in Kalamazoo, on the 2d Wednesday of December, 1876.

Herbert A. Burch,

Sec'y.

For the American Bee Journal.

#### An Explanation.

MR. EDITOR: -- After the high-toned and dignified position taken by you, in a recent number of the AMERICAN BEE JOURNAL, in regard to correspondence, I am somewhat surprised at seeing Mr. Bingham's article, on pp. 138-9, May number. I am also surprised at his writing so many untruths in reference to my busi-ness; he seems terribly "jarred"—is afraid —has lost faith—strikes out blindly and indiscriminately—insinuates—talks wise tries to joke a little, to reassure himself that he is not hurt, etc., etc.

In a statement, in a previous issue, you excused a misstatement of his on the ground of "treacherous memory."

He speaks in this article of my "letters and articles previously written," showing an unfriendly feeling towards honey producers.

I know of but one article, or letter, written by me for the AMERICAN BEE JOURNAL

in a great many years.

I have made maple syrup for the past eight years, some time before the infant days of comb-honey jarring. The "Ka-nuck" brand can only be made by myself, the name being my trade mark.

The cry of adulteration has had nothing to do with my syrup business; that cry on the part of honey producers has not affected my trade a particle; but that cry on the part of my customers, who have had, and have now, candied jar honey on their shelves, has caused me to invent modes, which I have covered by letters patent, of getting up jar honey in which there is no honey outside the comb to get candied of course it will be said I have no right to these patents, but, I have them,—the bees themselves packing it in the jars-don't get skeered, nobody—it is box honey, only it is in jars. The candying of honey has been my only trouble in jarring—the best evidence of its purity its only enemy. I have bought dozens of copies of the different bee papers, containing articles on candied honey, and sent to those who called such honey impure; but they often thought we were in the same balloon, and would none of it; others simply wish me to exchange for fresh goods. Still the trade has been good and continues so, but the new style of packing will be the ne plus ultra—which undoubtedly will be imitated before the first season is over, and they will swear that their grandfather did the same thing, but they did not think it worth anything—and probably it was'nt; or they may refer me to Sampson's lion carcass, in which bees stored honey. Well, it won't be the first man's lion carcase I have had to deal with. Some one may say, that this was the way the honey was put up that was found in the ruins of Pompeii, and I will find you a man who will say that all the honey he ever saw, that came from those ancient ruins, was labeled "PERRINE, CHICAGO;" but I have reason to believe he was joking.

The honey houses that "sprang up like

magic," are the identical ghosts at which Mr. B. was frightened, and from which he has not yet recovered, although they all vanished "like magic." It is claimed by him who founded and built up this business, that it is the original and only HONEY HOUSE—all others were, and are, magic imitations. When you are badly scared at something you don't understand, just "clamor," make a big noise, and it will reassure you, and you won't see the

hobgoblin any more.

Mr. B. says "honey dealers will prostitute fancy comb honey in boxes and frames, if they have it in their power, and will so have their revenge." Revenge on whom? Does he confess to having done this him-self, and is he afraid that others have learned his trick, and will do it themselves and he lose his trade? I could give names of honey producers having reported to me of other honey producers feeding sugar to make comb-honey, and one who fed such common brown sugar that he lost his little retail trade at home; and a short time ago I called upon a very prominent bee-keeper and took tea with him, and in the course of the conversation at table, spoke of feeding, and he stated that he had fed a whole barrel of sugar to one hive as fast as they would take it in; just then he looked hurriedly at his wife, and changed the subject; he did not ask her what she stepped on his toes for-he knew. That hive must have swarmed once a week through the season, or have made a deal of box honey.

Every one interested in comb honey, says: "do not use foundation for surplus honey." I suppose I should properly join in that same cry, as it will affect my trade in jars. I would here state that I can make light foundation with ten square feet to the pound, or anywhere down to free square feet to the pound; the lighter in weight the shallower the cell. I don't pretend to know which is best; "you pays your money and you takes your choice." I would advise all to use found. ation sparingly, this year, or rely on the experiments of others until it becomes a fact whether or no it will pay to use them or not, either in surplus boxes or brood chamber.

Since Mr. B. asks the question, I will say there is a lie mixed up somewhere in his figures. I will fill the frames of an ordinary Langstroth hive with less than one pound of foundation, but probably it would take a full pound to furnish wax te

complete the cells.

This is my eleventh year in the honey business, and I have simply sought to supply the demand for honey in its various forms and conditions. I have no choice between selling liquid or comb honey, in boxes or jars. I sell liquid honey in large quantities, at home and all over the states sell some small box honey to the city trade only-but do not ship any, as it will not ship safely. I cut immense quantities of comb honey to pack in glass jars, which I guarantee to ship safely, and pay for all that arrives in bad order.

Mr. B. had to sell his small fancy box honey shipped to this market, to cut into

jars the past season.

I had an order a few days ago, from a large jobber in canned goods, for comb honey in jars, who has bought a great deal of my goods in past years; but two years ago a "honey producer" in-duced him to believe that his goods were purer than mine, and sold him a small stock of jar honey. It was not neatly put up, and sold slowly, and, of course, soon candied, even sooner than mine, (being purer?) and was unsalable. I always exchange fresh goods for candied goods, but this producer would not do this and so they were stuck and would not buy any goods of me until they were sold which had to be done at a loss. The house wrote that they had "quit fooling around" and would give me their orders as usual hereafter. The same thing occurred to a large grocery jobbing house here in the city a short time ago. The jobber prefers jar honey because it will ship safely and box honey will not. The retail grocer prefers it because it does not break down and lea then it prefer would tended I ste

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and leak. It is all right till it candies; then it is all wrong, or nearly so. Some prefer candied honey and buy it, but if it would not candy, the trade could be extended ten fold or possibly an hundred fold.

I stencil on each side of every case of my goods that I ship "THESE GOODS SPEAK

FOR THEMSELVES.

I have sent sample lots of a few cases each, all over the country to be paid for if satisfactory, and have thus increased my

trade year after year.

I do not believe it occurs to bee-keepers generally, how little I care whether they like my manner of putting up honey or not, as I do not solicit orders from them. I have to cater for an altogether different people, who know little or nothing about honey, and I have to put it in such shape as will meet the readiest sale and give the best satisfaction to the consumer. Of course you can see that it would be the greatest folly to put up something that would not give the most eminent satisfaction.

C. O. PERRINE.

Chicago, Ill.

### For the American Bee Journal. The Ripening of Honey.

In reply to the remarks in A. B. J., and Gleanings of last month, of several of our brethren, in regard to the "ripening of honey," allow me to send you with to-day's mail a jar of clover honey of my own crop of 1874. We had no honey crop last year. You will oblige me by giving to our friends your own idea of the state of ripening of this honey. I have thicker honey from the same season, but it is in larger jars and not so easy mailed. All of my honey was extracted when the combs were filled, and not in a single instance did I wait for the cells to be capped. On the contrary, cells were only capped when my time would not permit to extract sooner. Opening, a few weeks ago, a couple of cases of 2 to jars which stood in my store ever since the harvest of 1874, I found almost every jar ungranu-lated. Honey was coming in slow, two years ago, so that we had a chance of leaving it in the receiver a week or two for evaporation. From the receiver we bottled it and packed it in cases (with sawdust.) Our chief aim, in the production of honey, should be quality, and our next quantity. I should not wish to be understood that I consider it an improvement to the quality to extract the uncapped honey, but I do believe that it is not in the least detrimental, providing we give the honey a chance for evaporation of the contract of the ation after it is extracted. It is very important to the trade to keep each kind of honey separate, and this can hardly be done if we extract our capped combs only, excepting it be during a heavy flow of honey. Several of my friends who furnish me with honey, assure me that they never extract any before their combs are capped. Yet some of their honey is very thin, and some has even a sour taste about it. I could prove this to you by sending you a sample of one. I am sure my friend is sincere in his assertion, as I know him to be a good man. My own honey may be thin some seasons, like that of other parties, but I never found his sour "twang" about it. If I was not particular about keeping separate each kind of honey, I should very likely allow the combs to be capped before extracting. But, capped or uncapped, all extracted honey should stand in open vessels for evaporation, and all impurities which will arise to the surface should be skimmed off carefully before it is barreled or jarred. From those parties who work contrary to this rule, comes our thin or sour honey principally. Such, at least, is my experience. I am perfectly willing to modify my opinion if I am convinced of being wrong.

[A later note from Mr. Muth says that by mistake one of his young men sold the jar of clover honey which he meant to have sent, and so he has sent us a jar of honey of the crop of 1874, but not clover. So far as quality is concerned, we have tasted better honey than the sample sent. It is thick and nice in appearance with no evidence of having ever soured in the slightest degree, and there is nothing to make us suppose the flavor any different from that got directly from the flowers.—Ed.

For the American Bee Journal.

Albino Bees Again.

In the March number is an article headed, "Albino Bees," in which Mr. Staples tried to misrepresent that stock of bees. Any intelligent person who will read the article will see that the writer contradicts himself. He says he does not like "misrepresentations;" now, I do not like to see any person or any thing misrepresented.

He tried to destroy the reputation of the Albinos from selfish motives. Because he has failed to accomplish anything with them, does it follow that every one must fail? Is he the Solomon of the apiary? Are there not others in the business who have studied it as closely as he? Is it because he has failed that he would become jealous of one who has succeeded? If he "dislikes misrepresentations from the very heart," why does he try to misrepresent another? If I am to judge of his character from the tenor of his article, I would infer that he is egotistical, and

seems plainly to say, that because I have failed no one else can succeed. His language would seem to indicate that he considers himself as standing at the top of his profession and all other bee-keepers must "crawl at his feet." The writer says in one place that he has never reared one pure Albino queen, and then says that he never raised one which did not become a drone-layer after the first season! How are we who read this article to understand it? Is it not a flat contradiction? He cries "humbug," and at the same time tries to invent one to accomplish his selfish ends. He attempts to heap epithets upon one of whom he is jealous, simply, because that one has sold a few queens to some of his customers.

He seems to understand some tricks in queen-rearing, perhaps, has practiced

some of them.

It has always been my custom when selling queens to guarantee them. I have sold queens to all parts of the United States, and have never yet taken any advantage of any one. If I do sell queens to any of his customers is that any reason why he should attempt to slander me?

It seems to me that if persons attempt to call a thing a humbug, they should understand it thoroughly before so doing. But the only reason he can assign, is that he has failed to raise Albino queens.

The American people generally purchase where they can get the most for their money, consequently they buy my pure Albino queens—"the best in the world."

D. A. PIKE.

Smithsburg, Md.

# Notes & Queries.

CONDUCTED BY CH. DADANT.

Would it be well to disturb the bees when at work in boxes; by removing the boxes to extract honey from brood chambers?

Answer:—Yes; you can remove the boxes, and extract honey, without inconvenience. But afterward, the bees will put their newly-gathered honey in the brood chamber first, and ten to one, if you have made a large room in the brood chamber, they will take the uncapped honey from the boxes, to fill the brood chamber.

On April 20th one of my very strongest stocks with as bright comb as you ever saw, plenty of pollen and uncapped honey, and a large and yellow queen, appearing as in the height of laying; there were no signs of queen-cells as though a queen had been raised. I gave another comb of un-

capped honey, returned in eight days, and finding no eggs, drone nor worker, I killed the queen. There is not a drone in my apiary. Was I too hasty? Should I have kept her for further experiments?

No! There are drones now, if not in your apiary, some are in your neighbors' apiaries. We have plenty of them already.

What use can be made of the contents of a hive depopulated through dysenter, and left full of partially mouldy comb, with some honey? When you feed been honey in the comb, is it any advantage to uncap it?

MRS. HELENA MADSEN.

You can use the mouldy combs, if they are not rotten, in putting them in your strongest stocks, one comb at a time; or by putting in the hive a strong swarm. But the first plan is the best.

There is no advantage in uncapping the cells of honey, the bees will uncap them according to their need. Yet if by feeding you desire to excite breeding then it is better to uncap the combs.

Let me know through the Journal how I can prevent getting hybrid drones. Rev. E. Lewis.

Put drone combs on your best pure Italian colonies, and take out all drone combs from your impure ones. Raise your queens in a season when there are no drones, i. e., before black or hybrid drones are hatched, or as soon as they are killed by bees, and if you have stimulated your drone raising colonies they will produce drones to fertilize your queens.

When shall I cut Alsike clover forseed—the first or second crop.

A. COOPERBIDER.

Cut after the first crop.

What should be the distance between the walls of a hive and the ends of the frames, also between the lower part of frames and the bottom board? How much space between the sides of hive to contain 10 frames? I am making some hives 18\% x12\% inches, 11\% inches deep. I put 9 frames in a hive, I used to put 8 frames in 12 inches, but think it makes them too far apart. My frames are 17\% x10\% outside, and 10x17 inside, ends of frames \% in. thick, top bar 5-16, bottom bar 3-16, space top, bottom, and ends of frames 5-16.

The distance between the outside ends of the frames and the walls of the hive should be from 1/4 to 3/6 of an inch. Between the under side of frames and bottom

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in our apiary is about % of an inch, mere or less.

We think that 1½ inches is the right distance from centre to centre for the frames; a little less will do, but you experience more difficulty in taking them out.

I am a novice in bee-keeping, yet anxious to learn, and am taking your interesting Bee Journal. Query 1st. I have a colony of bees, which I have supposed to be pure since introduction of queen last summer, but there are some peculiarities about the worker bees that create in my mind a suspicion of impurity. The worker bees all seem to have three distinct yellow bands, yet there are many of them with the whole of their bodies, behind the yellow bands, perfectly black, while all the others are uniform in color and have all the other marks which indicate purity. Is it common among pure Italian bees to have such variableness in the same hive?

J. W. MCNEIL.

The worker bees whose bodies behind the yellow bands are perfectly black are the old ones who seem darker than the others because they are deprived of hair.

1. Is a frame, 8 inches deep by 16, in the clear, deep enough for out-door wintering in Michigan?

2. Is a frame 10x16 in the clear, better? If so, how many frames to the hive?
3. Is a frame 11x16 too deep? If not, is 3 frames enough for the Langstroth hive?

4. What size and shape frame is best, and how many to the hive? W. A. M.

I cannot answer the first question, as I never have lived in Michigan, yet I believe that bees, in the North, need a deeper frame than in the middle or Southern States

The frames which have given us the best results, so far, are the Quinby frame, 11 inches by 18—8 or 9 frames to the hive.

If I was to begin anew, I would make my frames 16 inches long by 12 or even 14 inches high, especially if I lived in Michigan.

I use here hives wide enough for 11 Quinby frames. By means of one or two partition boards I reduce the hive to 7 or 8 frames, for winter, filling the empty spaces with dry leaves, chaff, or dry moss.

When the honey harvest begins, I put, outside of the partition boards of a few of my best stocks, one or two frames filled with dry combs, and I examine these

combs every day. As soon as bees begin to bring honey in these outside combs, I give plenty room to all my colonies, either at side or above, or both, to prevent swarming.

Is there anything known that will remove the glue from the hands?

A. B. MASON.

Yes! alcohol or spirits of turpentine will remove bee glue instantly. We prefer alcohol, for its odor soon disappears.

Why will not bees eat candied honey? I have several times offered this candied honey and they only eat out what liquid honey they can, and reject the rest. I have placed a card containing candied honey in a hive, and then on looking, after a few days, would find the grains in the bottom of the hive. C. H. WHITMORE.

Your bees have not been able to eat your candied honey because you gave it in cold weather. In summer they would have eaten it all, for heat is necessary to melt candied honey.

How shall I hive my bees? When they swarm naturally, sometimes they stay in the hive an hour or two at a time, and sometimes will not be lead. C. M.

The first swarm led by the old queen remains generally in the hive in which it is hived. The queens of the second swarms, being unfertilized, leave the swarms to hunt for drones; then the swarm follows. It is advisable to give all the swarms a comb of young brood as soon as they are hived. The bees, finding that they have the means of raising a queen, will not leave the hive. It is better not to let the bees swarm naturally, but to swarm them artificially.

The Southern Kentucky Bee-keepers' Association will meet at Smith's Grove, Ky., on L. & N. R. R. on June the 1st. We expect to have an interesting time. Would be glad for all who can come to be with us. We want communications on bee-culture. We want for exhibition, bee hives, honey-boxes, extractors, and uncapping knives, bee veils, queen cages, bee-feeders, and any and every thing in the line of bee-culture will be received and put on exhibition and sold, or returned as may be wished; we sold every article exhibited one year ago. A committee of arrangements will provide homes for all who come. We hope our brother bee-keepers will give us a lift as we are working for the advancement of scientific bee-culture. N. P. Allen, President.

### Biographical.

For the American Bee Journal.

#### Warren B. Rush.

Warren B. Rush was born April 17th, 1846, Morris Tp., Greene County, Pennsylvania. At the age of ten years, his parents removed to Simpson's Store, Washington County, Pa. At the age of sixteen, he entered college, and remained three years. In 1865, he took a full course in Duff's College, Pittsburgh, Pa. After eighteen months of travel, he began the study of pharmacy, serving as an appren-

bees from the gum. He had never heard of the idea of transferring at this time, but wishing to study the habits of bees, he conceived the idea of putting them in the frames. From this time until 1871, (when he returned from the city to his father's) he began the regular study of "the Bee." He did not keep bees for profit until 1874. He lost nine hives by being robbed, and ruined some by experiments, (about six) but not one by disease. This year being the third year that the honey had failed, he sold out, and in April, 1875, moved to Pointe Coupee, Louisiana, for his health, and to pursue his occupation of raising bees and honey. He devoted much time to the study of the



W. B. Bush.

tice in a drug store one year, in West Va.; one year in Pittsburgh, Pa. In 1864 (Jan.) he began the regular study of medicine. After attending one full course of lectures, he was elected apothecary to the City Hospital in same city, (Philadelphia, Pa.) 2y but after three months, his declining health succumbed to nervous prostration, and he was brought home without a hope of recovery, June, 1871. He continued his studies until April, 1874, when his health seemed too feeble to continue, and he gave up the idea of ever practicing.

He obtained his first hive of bees (a hollowgum) in 1857. In 1863, he bought a double walled Langstroth hive. In 1864 made another one, and transferred the

difference between bees North, and bees South, as his motto is, "know what you are doing," and you will succeed. He has taken a partner, and is beginning on a firm basis. They are progressing finely, with 110 hives to start with, and as many more engaged. He is a strong advocate of "extractors," and has learned the secret of raising as fine honey as any in America. Has used some different kinds of hives. Langstroth was his first, put it by, but now has finally adopted it again, and says there is none better. He makes it two-story, without the honey board or strips around the sides; second story same as first, each ten frames, the cover fitting either story.

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